117-554

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1882.

No. 166.

THE YALE LOCK MANUFACTURING COMPANY,
APPELLANT,

vs.

HALBERT S. GREENLEAF.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK.

FILED NOVEMBER 7, 1882.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1885.

No. 166.

THE YALE LOCK MANUFACTURING COMPANY, APPELLANT,

vs.

HALBERT S. GREENLEAF.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK.

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1 The President of the United States of America to the Yale Lock Manufacturing Company, Greeting:

[Seal U. S. C. C., S. D. N. Y.]

You are hereby commanded that you personally appear before the judges of the circuit court of the United States of America for the southern district of New York, in the second circuit court, in equity, on the first Monday of September, A. D. 1872, wherever the said court shall then be, to answer a bill of complaint exhibited against you in the said court by Halbert S. Greenleaf; and do further and receive what the said court shall have considered in that behalf. And this you are not to omit, under the penalty on you of two hundred and fifty dollars.

Witness Honorable Salmon P. Chase, Chief Justice of the Supreme Court of the United States, at the city of New York, on the 15th day of July, in the year one thousand eight hundred and seventy-two, and of the Independence of the United States of America the ninety-seventh.

(S'g'd) KENNETH G. WHITE, *Clerk.*

JAMES H. DAY, *Comp't's Sol'r.*

The defendant is required to enter appearance in the above cause in the clerk's office of this court on or before the first Monday of September, 1872, or the bill will be taken *pro confesso* against it.

(S'g'd) K. G. W., *Clerk.*

1½ (Endorsed:) I hereby certify that on the 17th day of July 1872, at New York city, in my district, I personally served the within subpœna upon the within-named Yale Lock Manufacturing Company by exhibiting to J. D. Brower, agent, the within original, with the seal of the court thereon, and at the same time leaving with him a copy thereof. Dated New York, Sept. 2, 1872. (S'g'd) Geo. H. Sharpe, U. S. marshal, S. Dist. of N. Y. (S'g'd) J. Tumey, dep.

2 United States Circuit Court, Southern District of New York.
In Equity.

HALBERT S. GREENLEAF, Plaintiff,
vs.
THE YALE LOCK MANUFACTURING COMPANY, Defendants. } Case No. 3.

To the honorable the judges of the circuit court of the United States within and for the southern district of New York:

Halbert S. Greenleaf, of Rochester, in the State of New York, lock manufacturer, brings this his bill of complaint against the Yale Lock Manufacturing Company, a corporation organized under the laws of the State of Connecticut, having a place of business at number 1 Barclay street, in the city of New York, in the southern district of New York.

And thereupon your orator complains that heretofore, to wit, in or before the year 1860, one George Rosner, of Rochester aforesaid, a citizen of the United States, made a new and useful invention of an

improvement in permutation locks, which said improvement was not known or used by others before the invention and discovery thereof by the said Rosner; and thereupon, the said Rosner having in all things duly complied with the requirements of the
3 laws of the United States in this behalf, original letters patent of the United States were in due form of law issued to him, the said Rosner, from the Patent Office of the United States, bearing date on the 18th day of September, A. D. 1860, numbered 30092, whereby there was granted to the said Rosner, his legal representatives and assigns, for the term of fourteen years, the full and exclusive right and liberty of making, using, and vending his said new improvement, as exhibited in his model deposited in the Patent Office, and intended to be described and claimed in the specification and drawings annexed to the said original letters patent. And afterwards, to wit, by an instrument in writing executed on the 3d day of July, 1869, and recorded in the Patent Office, July, 7, 1869, in liber Q^{11}, page 94, of Transfers of Patents, the said Rosner did duly convey and assign to your orator all his right, title, and interest in and to the said original letters patent, and in and to the invention thereby secured or intended to be secured; and by a further instrument in writing executed on the 4th day of November, 1869, and recorded in the Patent Office November 6th, 1869, in liber D^{12}, page 297, of Tranfers of Patents, the said Rosner did duly assign to your orator all his, the said Rosner's, right to collect damages for infringements of the said letters patent committed before the said 3d day of July, 1869. And afterwards, it being discovered that the said original letters patent were inoperative to the full protection of the said invention by reason of a defective or insufficient description and claim or claims in the specification annexed thereto, which error had arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention, such proceedings were duly had and conducted in the Patent Office in all respects according to law; that on the 25th day of July, A. D. 1871, new letters patent, bearing date on the day last mentioned, and numbered reissue No. 4488, were duly issued to the said Rosner, as assignor to your orator, with an amended specification thereto annexed, whereby there was granted to the said Rosner, for the residue of the original term of fourteen years, the full and exclusive right to make, use, and vend his said improvement according to the
4 description and the several claims set forth in the amended specification annexed to the said reissued letters patent, which said right is now vested in your orator as the sole owner of the legal title to the said reissued letters patent; of which said assignments, and the title of your orator in and to the said reissued letters patent, your orator will offer proof according to law on the hearing of this bill.

And your orator believes, and charges the fact to be, that the said Rosner was the original and first inventor and discoverer of the improvement and the several combinations and things described and claimed in the specification annexed to the said reissued letters patent, and that the same was not and were not known or used by any

other person or persons before the invention and discovery thereof by the said Rosner.

And your orator further shows that divers manufacturers of locks in the United States, well acquainted with the rights of your orator in the premises, and with the structure, use, and value of the said combinations and things described and claimed in the specification annexed to the said reissued letters patent, have, since the grant of the said reissued letters patent, admitted the rights of your orator, paid damages for their past infringements of the same, and taken licenses from your orator and his partner in business, James Sargent, of Rochester aforesaid, whereby for a certain royalty or patent dues the said licensees have become entitled to use the improvements and the several combinations and things described and obtained in the said reissued specification, and are now using the same.

But now so it is, may it please your honors, that the said The Yale Lock Manufacturing Company, in violation of the rights of your orator, and intending to deprive him of the benefit of the said reissued letters patent, and without license or permission, have, within the southern district of New York, made, used, and sold, and still continue to make, use, and sell, and to offer for sale, a large quantity of permutation locks, which infringe the said reissued letters patent, and especially the first and fourth of the claims in the said reissued letters patent contained, to the injury of your orator and his licensees, and have thereby unjustly and unlawfully made and still make great gains and profits which belong of right and according to law to your orator, and for which the said defendants wholly neglect and refuse to account to your orator. All which acts and doings are contrary to equity and good conscience, and tend to the manifest injury of your orator in the premises.

In consideration whereof, and forasmuch as your orator can only have adequate relief in this honorable court, where matters of this kind are cognizable by statute: To the end, therefore, that the said defendants may, if they can, show why your orator should not have the relief hereby prayed, and may, according to their best and utmost knowledge, remembrance, information, and belief, full, true, direct, and perfect answer make to the matters and things hereinbefore stated and charged;

And that the defendants may be decreed to account with and pay over to your orator the profits which they have or might have made by such unlawful manufacture, use, and sale of locks containing the several combinations and things embraced in the said first and fourth claims of the said reissued letters patent:

May it please your honors, the premises considered, to grant unto your orator a writ of injunction, issuing out of and under the seal of this honorable court, according to law, enjoining the defendants, their agents and servants, from further infringing the rights of your orator; and that your orator may have such other and further relief as the nature of his case may require, and to your honors may seem meet.

And your orator further prays for a writ of subpœna, to be directed

to the defendants, commanding them to appear and answer this bill and to abide the orders and decrees of the court herein.

HALBERT S. GREENLEAF.

JAMES H. FAY,
Solicitor for Complainant.
GEO. T. CURTIS,
Of Counsel with the Complainant.

6 STATE OF NEW YORK,
Northern District of New York, County of Monroe:

On this 17th day of June, 1872, personally appeared before me Halbert S. Greenleaf, who has subscribed this bill, and made oath that he has read the same, and that the contents thereof are true as to the matters therein stated as of his own knowledge, and that as to all other matters therein stated he believes them to be true.

[L. S.] CHAUNCEY NASH,
Notary Public.

STATE OF NEW YORK, } *ss:*
Northern District of New York, Rochester, Monroe County, }

I, George Rosner, of the city of Rochester, being duly sworn, on oath depose: That I have read the foregoing bill, and that I verily believe that I am the first and original inventor of the improvement described and claimed in the revised letters patent in the said bill mentioned.

GEORGE ROSNER.

Subscribed and sworn to this 17th day of June, 1872, before me—

[L. S.] CHAUNCEY NASH,
Notary Public.

(Endorsed:) Halbert S. Greenleaf, pl'ff, *vs.* The Yale Lock Man'f'g Company. In Equity. Bill in equity. Filed July 10, '72.

7 United States Circuit Court, Southern District of New York.
In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY.

The clerk of this court will please enter my appearance as solicitor for the defendants in the above-entitled cause.

Yours, &c., &c.,

G. M. PLYMPTON,
Solicitor for Defendants, 245 *Broadway.*

Dated New York, August 31, 1872.

(Endorsed:) United States circuit court, southern district of New York. Halbert S. Greenleaf *vs.* The Yale Lock M'f'g Company. Notice of appearance. G. M. Plympton, solicitor for def'ts, 245 Broadway, N. Y. (File mark:) Filed Sept. 2, '72.

8 *The Answer of the Above-named Yale Lock Manufacturing Company, Defendants, to the Bill of Complaint of Halbert S. Greenleaf.*

United States Circuit Court, Southern District of New York. In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY. } No. 3.

The defendants, now and at all times hereafter saving and reserving to themselves all and all manner of benefit and advantage of exceptions which may be had or taken to the manifold errors, uncertainties, imperfections, and insufficiencies in the said bill of complaint contained, for answer thereto, or unto so much thereof as they are advised it is material or necessary for them to make answer unto, answering, say that they are informed and believe, and therefore admit, that the said letters patent of the United States, mentioned in said bill, were issued and granted to one George Rosner, as mentioned in said bill, and that said patent was dated as therein mentioned; they are also informed and believe, and therefore admit, that the said letters patent were surrendered and reissued as therein set forth; but they do not know and are not informed, save by said bill of complaint, whether or not the said George Rosner was a citizen of the United States, or whether or not applications were made respectively as stated in said bill, or whether or

9 not such proceedings were had on said applications respectively as therein stated, or what proceedings, if any, were had thereon, or whether or not the assignments and conveyances mentioned in said bill were made, executed, delivered, or recorded, as therein stated, or what assignments or conveyances of said letters patent or reissued letter patent, or either of them, if any, were made, or whether or not said patent or said reissued letters patent, or either of them, were duly issued and granted as stated in said bill, nor do they know, nor are they informed, what said patent or reissued letters patent purported to grant or secure to the said George Rosner and the complainant, or either of them, or whether or not divers manufacturers of locks in the United States have, since the grant of the said reissued letters patent, admitted the alleged rights of the complainant, or paid damages for their alleged past infringements of the same, or taken licenses from the complainant and his partner in business, one James Sargent, or whether or not, for a certain royalty or patent dues, the said licensees have become entitled to use the improvement and the several combinations and things alleged to be described and claimed in the said reissued specification, or whether or not they are now using the same, and leave the complainant to make such proof of the several matters above mentioned as he may be advised.

And these defendants, further answering, say that although said letters patent and said reissued letters patent were issued as recited in said bill of complaint, yet, notwithstanding the issuing of the

same, the said George Rosner, patentee as aforesaid, and the complainant have abandoned and surrendered said invention to the public, and any exclusive rights in and under said letters patent and said reissued letters patent, since the issuing of said letters patent and reissued letters patent, by acquiescing without objection for a series of years to the known public use by these defend-
10 ants and others of the invention recited in said letters patent and said reissued letters patent.

And these defendants, further answering, say that since the year 1862 the predecessors of these defendants, then known as the Yale and Greenleaf Manufacturing Company, at Shelburne Falls, State of Massachusetts, and thereafter continuing under the name of the Yale and Winn Manufacturing Company, at said Shelburne Falls, and thereafter continuing under the corporate name of the Yale Lock Manufacturing Company at Stamford, State of Connecticut, these defendants openly and publicly manufactured and sold the said improved locks, substantially as recited in said letters patent and reissued letters patent, without license or authority, or let and hindrance, or objection of any kind whatsoever, from the said patentee, George Rosner and the complainant, although the said patentees had full and accurate knowledge of said manufacture and sale by these defendants and their predecessors aforesaid. And in addition to the aforesaid use by these defendants and their predecessors of said invention patented as aforesaid, the same was also openly and publicly manufactured, used, and sold, with the full knowledge of the said George Rosner and the complainant, without license or authority, or let, or hindrance, or objection, and without the payment of any money therefor, by a firm doing business in the city of Rochester, under the firm style of Martin Briggs & Son, and the same was used from the year 1857, and is at this time so manufactured.

And these defendants, further answering on information and belief, deny that the said George Rosner was the first and original inventor of the alleged invention patented by him in and by said letters patent dated the 18th day of September, 1860, or of said reissued letters patent dated the 25th day of July, 1871, and numbered 4488, and issued to the said complainant for an alleged improvement in permutation locks, or of any substantial or ma-
11 terial part thereof. On the contrary, these defendants are informed, and on information and belief say, that said alleged invention and substantial and material parts thereof claimed as new were, prior to any invention thereof by said George Rosner, known to and publicly used by divers persons in this country, and that among such persons were D. H. Rickards, at Boston, in the State of Massachusetts, and who now resides in said city of Boston, State of Massachusetts, who filed an application for letters patent in the United States Patent Office on the 15th day of March, 1852, which said application was withdrawn; and by a concern doing business under the name and style of Briggs & Son, at Rochester, State of New York, and who now reside in said Rochester, State of New York; and H. W. Covert, at Rochester, State of New York, and who now resides in said Rochester, State of New York; Conrad Kerch-

ner, at the city of Philadelphia, State of Pennsylvania, and who now resides at said city of Philadelphia; and ——— Evans and ——— Watson, at said city of Philadelphia, State of Pennsylvania, doing business under the name and style of Evans & Watson, and who now reside at said city of Philadelphia, all of said improvements being the same, or substantially the same, as recited in the said letters patent and reissued letters patent of the complainant. Each of said persons had such prior knowledge of said alleged invention, and publicly used the same in the said cities of Boston and Rochester, Philadelphia, and elsewhere, and each of whom now reside in said cities.

And these defendants, further answering, say, on information and belief, that the said alleged invention and improvements patented in and by said patent and said reissued letters patent, and substantial and material parts thereof claimed as new, had been in open and public use and on sale, with the consent and allowance of the said complainant, for more than two years prior to
12 the application of said patentee for a patent; and that the persons above named, and many other persons, possessed such prior knowledge of the thing patented in and by said letters patent and reissued letters patent, and publicly used and sold the same as aforesaid at the said cities of Boston and Rochester, Philadelphia, and other places.

And these defendants, further answering on information and belief, say that said reissued letters patent is broader than the alleged invention of said George Rosner, and covers more than was described or made known in his said original patent, or in his application therefor, and more than was represented in the model deposited in the Patent Office on his application for said original patent, and that said reissue is not for the same invention as was said original patent.

And these defendants, further answering on information and belief, say that said original patent was not inoperative or void for the reasons recited in said bill, and that a surrender thereof, as well as the procurement of said reissue, was fraudulent, and for the purpose only of covering inventions and things not made by said George Rosner, and not known at the time of his application for said original patent, but have been subsequently made by others.

And these defendants, further answering, deny, on information and belief, that at the time of the filing of the said bill, or at any other time, the said complainant was in the rightful and exclusive possession or ownership of the said alleged invention mentioned in said bill, or of any exclusive right under said patent or said reissued letters patent, or either of them; and they deny, on information and belief, that by virtue of any assignment or assignments of said alleged invention by the said George Rosner or others the complainant now is or ever has been the sole and exclusive owner thereof, or that he is now entitled to the sole and exclusive use and benefit thereof.

And they deny, on information and belief, that the said
13 complainant has sustained or suffered any loss or damage

from any infringement of said patent or reissued patent by these defendants; and these defendants pray the same benefits of the facts and things herein set forth as if for the reason thereof the said bill had been demurred to when a demurrer would have been proper, and the same benefit thereof as if they had been specially pleaded to said bill; and they submit to this honorable court that said complainant has no right to any injunction, account, or other relief prayed for in said bill, and these defendants pray to be hence dismissed, with their reasonable costs and charges in this behalf most wrongfully sustained.

G. M. PLYMPTON,
Solicitor and of Counsel for Defendants.
HENRY R. TOWNE,
President of the Yale Lock M'f'g Co.

UNITED STATES OF AMERICA,
Southern District of New York, City and County of New York, } *ss:*

On this sixth day of November, 1872, before me personally appeared Henry R. Towne, president of the defendants in the above-entitled suit, who, being duly sworn, deposes and says: That he has read the foregoing answer subscribed by him and knows the contents thereof, and that the same is true of his own knowledge, except as to those matters which are therein stated upon information and belief, and as to those matters he believes it to be true.

[SEAL.] NOAH TUGWELL,
Notary Public, N. Y. Co.

(Endorsed:) United States circuit court, southern district of New York. Halbert S. Greenleaf *vs.* The Yale Lock Manufacturing Company. Answer. G. M. Plympton, sol. & of counsel for def'ts, 245 Broadway. Filed Nov. 6, '72.

14 *The Reply of the above-named Halbert S. Greenleaf to the Answer of the Yale Lock Manufacturing Company.*

United States Circuit Court, Southern District of New York. In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY.

This repliant, saving and reserving to himself all and all manner of advantage of exception to the manifold insufficiencies of the said answer, for the replication thereunto says that he will aver and prove his said bill to be true, certain, and sufficient in the law to be answered unto, and that the said answer of the said defendants is uncertain, untrue, and insufficient to be replied to by this
15 repliant, without this, that any other matter or thing whatsoever in the said answer contained material or effectual in the law to be replied unto, confessed and avoided, traversed or denied, is true; all which matters and things this repliant is and will be

ready to aver and prove as this honorable court shall direct, and humbly prays as in and by the said bill he has already prayed.

JAMES H. FAY,
Solicitor for Complainant.

GEO. T. CURTIS,
Of Counsel.

(Endorsed:) U. S. circuit court. H. S. Greenleaf *vs.* The Yale Lock Manufacturing Company. Replication. James H. Fay, compl't's sol., 9 Nassau St. Filed Dec'r 21, '72.

16 *Proofs for Final Hearing in the above-entitled Cause, taken before Edward G. Thompson, one of the Standing Examiners of this Court, on the part of the Complainant, under and pursuant to the 67th Rule in Equity as amended.*

United States Circuit Court, Southern District of New York. In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING CO. } Suit No. 3.

NEW YORK, *May* 5, 1873—11 a. m.

Present: E. Wetmore, Esq., counsel for complainant; G. M. Plympton, Esq., of counsel for defendant.

SPENCER H. COLE, a witness produced on behalf of the complainant, being first duly sworn, in answer to interrogatories propounded by Mr. WETMORE deposes and says:

1 Q. What is your name, age, residence, and occupation?

A. Spencer H. Cole; I am 29 years of age; I reside at No. 402 Sacket street, Brooklyn; safes, locks, adjustable elbows, &c.

2 Q. Are you acquainted with the various combination locks to be found on sale in the market in this city; and, if yea, how long have you been so acquainted?

A. I am, and have been for about six years.

3 Q. Do you know The Yale Lock Manufacturing Co., the defendants in these suits; and, if so, how long have you known them, and what is their business, and where do they carry it on?

A. I have known them, in a business way, during nearly
17 all this time—that is, the last six years. They are manufacturers of bank and other locks; their manufactory is at Stamford, Conn., and they have a salesroom in this city.

4 Q. Can you produce specimens of any of the combination locks so manufactured and offered for sale by said Yale Lock Manufacturing Co.; and, if yea, will you please produce said specimens, and state how long you have known of the same being offered for sale or sold in the market by said company?

A. I can, and I produce two locks.

(Locks offered in evidence, and marked Complainant's Exhibits "Cole No. 1" and "Cole No. 2," E. G. T., Ex'r.)

I have known Exhibit Cole No. 1 for several years. Exhibit Cole No. 2 I have not known for so long a time—probably for a year and a half.

Subscribed and sworn to this 5th day of May, 1873.

E. G. THOMPSON, *Examiner.*

(Counsel for complainant puts in evidence reissued patent to George Rosner for an improvement in permutation locks, No. 4488, dated July 25, 1871, marked Complainant's Exhibit No. 1, suit No. 3.)

(It is agreed between counsel that a copy of the assignments of said reissued patent No. 4488, from the said Rosner to the plaintiff herein, may be read in evidence, with the same effect as the original.)

HENRY B. RENWICK, a witness on the part of the complainant, being produced and duly sworn, in answer to interrogatories propounded by Mr. WETMORE deposes and says:

1 Q. What is your name, age, residence, and occupation?

18 A. Henry B. Renwick; I am 55 years of age; I reside in the city of New York; my principal occupation at present is the examination of machinery and patents, and I am frequently called as an expert in the circuit court of the United States in various circuits in suits in such courts on patents.

2 Q. Please state what experience you have had in regard to the study of mechanics, and the application thereof, especially in regard to combination locks.

A. I have been studying mechanics ever since I entered college; I have paid especial attention to locks for about 25 years, commencing when I was examiner in the Patent Office, where I had the matter of locks in charge; since then I have drawn many specifications for patents for locks, and have been examined as expert in suits under lock patents.

3 Q. Have you read, and do you understand, the specification of Rosner reissued patent No. 4488, Complainant's Exhibit No. 1, in this suit?

A. I have frequently read a copy thereof, and believe I understand the invention described and specified therein.

4 Q. Please examine the two locks marked respectively Exhibits Cole No. 1 and Cole No. 2, and state whether or not you find the device or improvement mentioned and described in the 1st and 4th claims of said reissued patent in either of the said locks; and, if you do state that you do so find the said device and improvement, please give your reasons therefor.

A. The invention set forth in the first claim of the patent is a combination of certain devices, by means of which the combination of a wheel tumbler lock can be changed without taking the tumblers out of the tumbler case or opening the case of the lock, and while all the tumblers are still in place upon their supporting spindle. In order to change the combination of a wheel lock it is necessary to change the angular relation between the pin by means of which the

tumbler is turned, and the notch or gate into which the dog falls. It was usual, before the date of this invention, to make up the tumbler of an outer annular disc and an inner annular disc, the bore of the outer disc fitting the periphery of the inner disc, and to attach the driving pin to the inner disc while the notch or gate was cut upon the periphery of the outer disc. Various means were employed for attaching the two discs together, so that the inner disc caused the outer one to revolve with it, and by loosening this attachment the angular relation between the pin and the gate could be changed, and the tumblers could thus be set to lock and unlock upon a different combination. In all these constructions, so far as I know, prior to the date of the Rosner patent, it was necessary to open the lock case or the tumbler case, if it had a separate cover, to take out the tumblers, to detach the outer from the inner disc, so that one could turn upon the other, then to set the pin and the gate in the desired angular relation, then to connect the two discs together again and put the whole tumbler back in its place upon the tumbler spindle. The tumblers of lock Exhibit Cole No. 1 furnish a good example of this old construction, the outer and inner discs composing each of the tumblers in it being held in any desired angular relation to each other by means of a screw whose head lies near the periphery of the outer disc, which contains the gate and makes part of the tumbler.

In the Rosner lock each tumbler is, as in the old plan, made up of two discs, called by him an outer ring and a central hub, the former provided with a gate and the latter carrying the pin. A small bolt is secured to the outer ring of each tumbler, and the outer periphery of the inner disc is provided with a set of teeth or notches, the bolt and the notches being so constructed that the two discs are locked together when the bolt is moved towards the center of the tumbler. This bolt is acted upon by a small cam which can be actuated by a key passing through the tumbler perpendicularly to the face of it and parallel with its axis. Each tumbler is provided with these notches, bolt, cam, and key-hole, and the key can be inserted through the key-holes of the whole set at the same time; a turn of the key will then unlock all the bolts so that each inner ring of each tumbler can be moved upon its outer disc. The inner ring of the tumbler nearest the knob spindle can then be moved by means of the spindle so that the pin of that tumbler may be caused to occupy any desired angular relation to its gate. When the pin and gate occupy the desired relation a partial turn of the tumbler key will shoot the bolt and confine the two rings of the tumbler together, so that the pin and gate occupy and are prevented from moving from the desired angular position. In locking the two discs of this tumbler fast to each other all the other discs of all the other tumblers will or may be locked fast. After the tumbler nearest the spindle is set and locked the key is to be drawn away from the back of the lock, so that it can no longer effect the locking device of the first tumbler; the same operation of changing the combination may then be performed upon the second tumbler, which is the next but one to the spindle, and so on in succession, if desired, until the

combination is changed on each and every tumbler in the lock; or, if it be desired, the relation between the pin and the gate of any one tumbler can be changed without changing the relations existing in the other tumblers. The devices specified in combination in the first claim of the patent are:

First. A set of wheel tumblers, each composed of two discs, as before described.

Second. A set of bolts or fastening devices, by means of which each outer ring of each tumbler may be secured to its inner ring or disc.

Third. A key for acting upon these fastening devices. And as the claim states that this key is to be inserted through each or all of the wheels or tumblers in order to perform its duties, I think that a fourth element enters into the combination, viz., a series of key-holes, one in the outer ring or disc of each tumbler. I find all these elements in Exhibit Cole N. 2 all constructed substantially as described in Reissue No. 4488, and operating both separately and in combination as they are described as operating in that reissue.

21 I cannot give other reasons for this opinion than the statement that it is evident, from inspection, that the combinations found in the exhibit and the specification of the patent are substantially the same.

The lock described in the reissue No. 4488 has a set of wheel tumblers, called, in the patent, wheels, and a dog which drops into the gates of all the tumblers when those gates are set by the spindle in proper position. When the dog drops the bolt can be unshot or retracted into its case.

When the gates of the tumblers are not in proper position the dog cannot drop. The tumblers are set by means of what is commonly called a knob spindle, which may be moved in two directions, inwards and outwards, in lines parallel with its axis, and circularly or revolving upon its axis.

When this spindle is pulled outwards, or away from the front of the door, it can engage with the bolt so as to shoot or retract it, and in that position cannot impart any motion to the tumblers.

When it is moved inwards it can operate to set the tumblers, but in that position can have no effect upon the bolt. If this spindle could operate both upon the tumblers and the bolt at the same time, or if the dog could ride upon the periphery of the tumblers while the spindle was operating to set them, then the lock could be picked speedily by a skillful operator.

In this lock, in addition to these parts, there is a disc attached to the knob spindle, upon which the dog rides. When the spindle is shoved in so that it can operate to revolve the tumblers this disc holds the dog up so high that it does not touch the tumblers while they are being revolved; and if it be desired to measure how far the dog will drop in any certain position of the tumblers the spindle must be pulled out before such measurement, if it be possible, can be effected.

The elements specified in combination in the fourth claim in the reissue referred to are:

1st. The knob spindle, capable of revolution and of being shoved in and out;

2d. A disc attached to the spindle;

22 3d. The dog operating as I have before stated; and

4th. A set of wheels or tumblers.

The operation being such that the dog is supported upon the disc when the spindle is shoved in and engaged with the wheels or tumblers. I find all these parts, all constructed and operating substantially in the same way, in Exhibit Cole No. 1; and I also find in that exhibit one formal difference in one member of the combination, viz: That the dog having the mode of operation described in the patent is in the patent represented as made of one piece only, while in the lock Cole No. 1 the dog is, in fact, made of five pieces, viz: The dog proper, which enters the gates in the tumbler; second, a spring located in a recess in the dog, which connects it with another swinging arm; third, this other swinging arm; and, 4th and 5th, two rollers.

But these rollers ride upon the disc, and when they do ride upon it hold the dog above the periphery, and so that it will not touch the periphery of the tumblers.

The operation of the disc, therefore, in holding up the dog, is the same as if the dog were made in one piece; and this is the operation which is the result of the combination specified in the reissue referred to.

I therefore find in Exhibit Cole No. 1 the combination described, as of Rosner's invention, in the fourth claim of reissue No. 4488.

HENRY B. RENWICK.

Subscribed and sworn to this 5th day of May, 1873.

E. G. THOMPSON, *Examiner.*

Examination adjourned till May 7, 1873, at 11 a. m.

23 NEW YORK, *May* 7, 1873—11 o'clock a. m.

Present: Counsel for both parties.

Met pursuant to adjournment.

Plaintiff's counsel puts in evidence model of Rosner lock, marked Complainant's Exhibit No. 3, Suit No. 3.

It is admitted that the witness Spencer H. Cole is the agent in the city of New York for the sale of the complainant's locks.

Complainant rests.

E. G. THOMPSON, *Examiner.*

COMPLAINANT'S EXHIBIT No. 1. E. G. T., *Ex'r.*

GREENLEAF
vs.
YALE LOCK MAN. CO. } Suit No. 3. May 5, 1873.

The U. S. Patent Office.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records

of this office of the reissued letters patent granted Halbert S. Greenleaf, dated July 25th, 1871, No. 4488, for "Improvement in Permutation Locks."

In testimony whereof I, J. M. Thacher, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this fifteenth day of June, in the year of our Lord one thousand eight hundred and seventy-two, and of the Independence of the United States the ninety-sixth.

[SEAL.] J. M. THACHER,
Acting Commissioner.

21 No. 4488. Reissue.

The United States of America.

To all to whom these presents shall come:

Whereas George Rosner, of Rochester, New York, assignor to Halbert S. Greenleaf, of same place, has presented to the Commissioner of Patents a petition praying for the reissue of letters patent for an alleged new and useful improvement in permutation locks (for which letters patent were issued to him, dated September 18, 1860, which letters have been surrendered, the same have been canceled, and new letters ordered to issue to said assignee on an amended specification), a description of which invention is contained in the specification, of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and

Whereas upon due examination made the said claimant is adjudged to be justly entitled to a patent under the law:

Now, therefore, these letters patent are to grant unto the said Halbert S. Greenleaf, his heirs or assigns, for the term of fourteen years from the eighteenth day of September, one thousand eight hundred and sixty, the exclusive right to make, use, and vend the said invention throughout the United States and the Territories thereof.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the city of Washington, this twenty-fifth day of July, in the year of our Lord one thousand eight hundred and seventy-one, and of the Independence of the United States of America the ninety-sixth.

[L. S.] B. R. COWEN,
Acting Secretary of the Interior.

Countersigned:
M. D. LEGGETT,
Commissioner of Patents.

25

4488.

United States Patent Office.

GEORGE ROSNER, of Rochester, New York, assignor to HALBERT S. GREENLEAF, of same place.

Improvement in Permutation Locks.

Specification forming part of Letters Patent No. 30092, dated September 18, 1860; reissue No. 4488, dated July 25, 1871.

To all whom it may concern:

Be it known that I, George Rosner, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful improvement in locks, of which the following is a specification:

This invention consists in combining with a set of permutation wheels or tumblers, constructed each of a rim and center, an arrangement of bolts or equivalent devices, which fasten and unfasten said rims and centers by the use of a key inserted through holes in the cams in the wheels by which said bolts or equivalent devices are operated, the effect being to enable the relative position of the rims and centers to be changed so as to make a new combination by moving the driving pins to different positions relatively to the slots in the wheels. It further consists in the arrangement of parts as hereinafter described.

In the drawing, figure 1 is a central vertical section of my improved lock; Fig. 2, a face view of the lock bolt and tumbler, and connecting parts removed from the lock case; Fig. 3, a face view of one of the permutation wheels, together with a portion of the surrounding box that encloses it; Fig. 4, a section of the same; Fig. 5, a perspective view of the vertically acting portion of the sliding tumbler; Fig. 6, a view of the key, by the use of which the combination of the wheels is changed; Fig. 7, a view of the device for closing and unclosing the key-hole in the back of the lock.

26 A represents the case of the lock attached to the door or other body B. C is the spindle, which is made up of a knob, *a*, and interior turning part, *b*, connected by means of a screw bolt, *c*, which allows the knob to be taken off at pleasure. The outer end of the interior portion has a head or shoulder, *d*, which prevents the spindle from being driven in. D is the cam, which rests loosely upon the spindle, so that the latter can be drawn endwise through it, and E is the disc or head, on which rests the dog F, which forms the vertically sliding portion of tumbler G. The dog slides up and down in a guide of the division plate H, and its connection with the sliding tumbler in the rear is made by means of a notch, *f*, Fig. 1, made therein, in which rests a bearing, *g*, Fig. 2, of the tumbler. The tumbler G rests between guides of the block bolt J, and moves bodily with it backward and forward as the bolt is thrown. The bearing *g* is made of sufficient length to allow the throwing movement in the notch of the dog. The tumbler G is held up by a

spring, I, when the spindle is thrust inward to engage with the wheels, as shown in Fig. 1. When the spindle is drawn outward or backward the cam D comes in contact with said spring and depresses it so as to allow the tumbler to fall. This, however, can occur only when the dog F comes in line with all the notches of the combination wheels. When this is the case, the tumbler falls with the dog, thus engaging with the cam D′, and the bolt can be thrown in or out. The cam receives motion on the retraction of the spindle by means of a pin, *h*, on the back of disc E, which strikes into and engages with a notch or slot, *i*, of the face of the cam. When the lock bolt is protruded, projections *k k* of the tumbler engage with stops *l l* of the case, and thus hold the bolt in position. It is only when the tumbler falls, as before described, that the bolt can be retracted. K represents a stationary stud of the box L, which forms the back of the lock and holds the combination wheels. On this stud are slipped washers M M, one after another, as fast as the wheels N N are applied. These wheels rest and turn upon the horizontal bearings *m m* of the washers, while the vertical flanges *n n* of the washers divide them and prevent their contact in turning. The
27 wheels N N are composed of an annular outer rim, *p* and *a*, center or hub, *q*, formed by two pieces, the parts composing the center or hub being rigidly secured together so as to allow them to move the same as if they were a single piece. As the rim and center are relatively adjusted from time to time to bring the driving pins of the centers in different relative positions with the slots of the rims, so the combination of the lock is changed.

Prior to my invention, in order to change the combination, where a single set of wheels only was used, made up each of a center hub and rim, the wheels had to be removed from the lock and adjusted by hand and then replaced.

I obviate this difficulty by the following arrangement: Opposite the center or hub *q* of each wheel, and located in the outer rim, I place a locking device or bolt, *r*, which, when forced in against the said center or hub, holds the same firmly in place with the outer rim; but, when thrown out, disengages said parts and allows the centers to turn free while the rims remain stationary. Against the locking device or bolt *r* rests a cam or eccentric, *s*. Through each or all of these cams, and also through the back plate of the lock, is inserted a key, P, Fig. 6, by turning which it will be seen that said locking or fastening device may be forced in or drawn out at pleasure. When the key is inserted and the fastening device thrown back, it will be seen that the rims of the wheels are held stationary by the key, while the centers may be turned to any different position by the spindle, thus setting the lock to a new combination. Motion is communicated from the disc E to the first wheel, and from one wheel to another, by means of pins, *t t*, which strike together during the revolution. This arrangement of pins was in use before my invention.

The novelty in the first part of my invention consists in the combination of the fastening devices *r* with the wheels, constructed of three parts each, an outer rim and a center or hub composed of two

George Rosner, Permutation Lock.

Reissue.
Sheet 2, 2 Sheets
No. [illegible].
Yale Lock mfg Co
of
Greenleaf
p 31.

4488

Fig 3

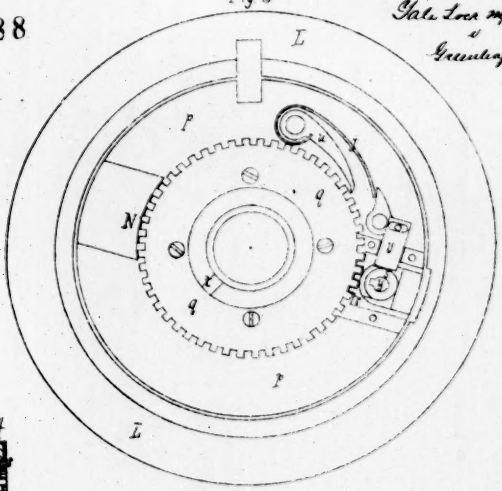


Fig 4



Fig 6



Fig 7

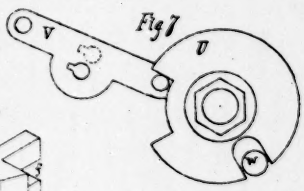
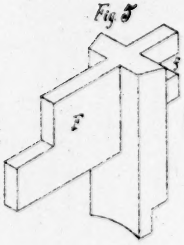


Fig 5



Witnesses
R. F. Osgood
C. H. Woodward

George Rosner Inventor.
By
Burke Fraser & Osgood
Attys. Rochester
N.Y.

George Rosner, Permutation Lock. Reissue.

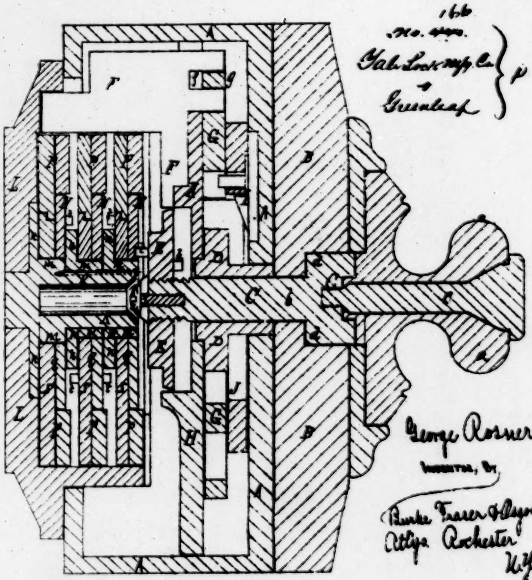
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Sheet 1. 2 Sheets.

4488

166
No. 4490.
Yale Lock Mfg Co
v
Greenleaf
p 30

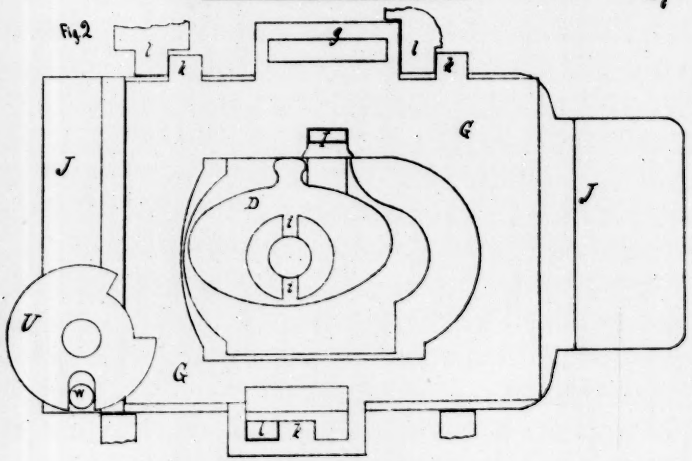
Fig 1



Witnesses
R. F. Osgood
C. M. Woodward

George Rosner
Inventor, By
Burke Fraser & Osgood
Attys Rochester
N.Y.

Fig 2



parts, secured together so that by inserting the key the parts composing the wheels may be loosened and the outer rims held stationary, while the centers or hubs are turned to a different position
28 by the action of the spindle, to rearrange the combination, and then the parts locked in place again, and all accomplished without removing the wheels themselves from the lock. In all prior locks with a single set of wheels (each wheel made up of a rim and center hub), so far as I am aware, the wheels had to be removed from the lock and the combination changed by hand.

If desired, a click, *u*, may be employed, in connection with the first wheel, to stop the motion opposite a given number, and not half way between. A block, *v*, may also be used, acted upon by the spring *j*, to hold the cam *s* when the latter has made a half revolution. This prevents any accidental motion given to the part *r*.

U represents a disc attached to the back part of the lock, which disc is partly rotated by the motion of the lock bolt, which has a pin, *w*, fitted in a notch of the disc. At the latter part of the movement of the lock bolt the pin suddenly turns the disc, thereby moving the lever V connected therewith and covering and uncovering the key-hole *y* accordingly which way the bolt is thrown. This is shown most clearly in Fig. 7.

What I claim, and desire to secure by letters patent, is—

1. In a permutation lock, in combination with a set of wheels consisting each of an outer ring or rim and a central disc or hub, a set of fastening devices or bolts, *r r*, which is made to fasten or unfasten said parts composing the wheels by the insertion of a key through each or all of the wheels, whereby the combination of the lock may be changed substantially, as herein specified.

2. In connection with the fixed stud K, the annular bearings M M, provided with horizontal bearings *m* and vertical flanges *n n*, which are slipped upon said stud to hold the wheels, as described.

3. The combination of the disc U and lever V with the lock bolt and case of the lock, for the purpose of covering the key-hole when the bolt is protruded, as herein described.

4. The disc E attached to the spindle C, when combined with the dog F and the wheels N N N, so as to support said dog from
29 said wheels when the spindle is engaged with the wheels, and to allow said dog to fall when disengaged, substantially as specified.

In witness whereof I have hereunto set my hand this 8th day of June, 1871.

GEORGE ROSNER.

Witnesses:
ARCH'D BAINE.
R. F. OSGOOD.

(Here follows diagram, marked pp. 30, 31.)

32 NEW YORK, MONDAY, *January* 26, 1874.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY.

Met pursuant to notice.

Edmund Wetmore, Esq., counsel for complainant; G. M. Plympton, Esq., counsel for defendants.

HENRY R. TOWNE, a witness of lawful age, produced on the part of the defendants, and being by me first cautioned and sworn to testify the truth, the whole truth, and nothing but the truth, and being examined by G. M. PLYMPTON, Esq., deposes and says:

1 Q. What is your name, age, residence, and occupation?

A. My name is Henry R. Towne; my age is 29 years; Stamford, Connecticut, is my residence; and my business is manufacturing locks, as president of the Yale Lock Manufacturing Company.

2 Q. What experience have you had, if any, in mechanics, particularly as applied to the construction of combination locks?

A. As an officer of the Yale Lock Manufacturing Company, and manager of its manufacturing, I have had especial and intimate knowledge and familiarity with bank locks of our own and other makes during the past five and a half years, prior to which I had for six years a general experience as mechanical engineer.

3 Q. Have you read, and do you understand, letters patent
33 issued to George Rosner on the 18th of September, 1860, reissued July 25th, 1871, number 4488?

A. I have read them, and I do understand them.

(Defendants' counsel offers in evidence a certified copy of specification and drawing of the application of D. A. Rickards, filed March 13th, 1852, for improvement in locks, which is marked "Defendants' Exhibit A.")

4 Q. Please look at Defendants' Exhibit A, and state if you find therein shown and described the same, or substantially the same, device, or parts of devices, shown, described, and claimed in the reissued patent of George Rosner, dated July 25th, 1871, and numbered 4488; and if you do find any of such patented devices therein shown and described, describe them particularly, and give your opinion for believing them to be the same, or substantially the same.

A. I find, in the Rosner patent above referred to, that the first claim relates to an arrangement by means of which the relative positions of the inner and outer discs, which compose each wheel or tumbler, may be changed at will by means of a suitable key or wrench introduced through a suitable opening in the back of the lock, and passing through all of the said wheels, the arrangement being such that this change in the angular position of the two discs composing each tumbler may be effected while the tumblers are in their proper position in the lock, and without opening or removing any portion of the lock. In order to effect this each wheel or

tumbler, in addition to the usual inner and outer disc, is provided with a set of fastening devices or bolts, which is made to fasten or unfasten said parts composing the wheels by the insertion of a key through each or all the wheels, whereby the combination of the lock may be changed.

Upon examination of Defendants' Exhibit A, I find identically the same combination or parts to exist, and identically the same results to be accomplished by the combination of said parts.

34

In the lock shown in Defendants' Exhibit A there is a set of wheels or tumblers, each composed of an inner and an outer disc, and each having a locking device or bolt, which may be made to fasten or unfasten the parts composing said wheels by the insertion of a key through each or all of the wheels, whereby the combination of the lock may be changed. I find, also, that this change in the angular position of the two discs composing each wheel is effected while the wheels are in position in the lock, without removing them from their position and without opening the lock. For these reasons I believe the two locks to be identical, in so far as relates to the devices referred to in the first claim of the said Rosner patent.

(Counsel for defendants offers in evidence a lock, which is marked Defendants' Exhibit B.)

5 Q. Please look at lock marked Defendants' Exhibit B, compare it carefully with a description and drawing in Defendants' Exhibit A, and state if you find said Exhibit B to be constructed substantially in accordance with the description and drawing of said Exhibit A.

A. I have made such examination, and find Exhibit B to be constructed strictly in accordance with the description and drawings of Exhibit A, excepting a slight difference in the form of some of the springs and smaller parts, which in no way affects the operation of the lock.

And being cross-examined by Mr. Edmund Wetmore, deposes and says:

1 X Q. Do you know where this lock, Exhibit B, came from?

A. It came from J. Watson & Son, the successors of Evans & Watson, safe manufacturers, of Philadelphia, J. Watson & Son being at present engaged in business in that city.

35

2 X Q. Are you aware of any instance in which the lock, of which Exhibit B is a sample, was sold and put into actual use?

A. I have no personal knowledge of places where this lock is in use, from the fact that it was in use many years before my connection with the lock business, and has long since been superseded by locks of superior construction. I am informed and believe, however, that these locks were largely used by the above-named firm of Evans & Watson, of Philadelphia, at and about the year 1852, upon safes made and sold by them in Philadelphia, New York, and elsewhere.

3 X Q. Do you know what was the date of the manufacture of this particular lock, Exhibit B?

A. I am informed that it was made about the year 1852 or within a year or two thereafter.

4 X Q. Is it possible, in the construction of that lock, to hold the outer rims of the tumblers in a fixed position while the inner disc is turned, unless the fence or tail of the bolt is in the gates or notches of the tumblers?

A. As this particular lock is now constructed it is, perhaps, hardly possible; but by increasing the tension of the springs which act upon the plungers bearing upon the outer periphery of the tumblers it could readily be done.

5 X Q. Does the key in that lock have anything, and, if so, what, to do in holding the outer rim of the tumbler stationary while the inner disc is moved?

A. It acts in the same manner in this respect as does the key in the Rosner lock, except that, as this lock is constructed, but one end of the key is supported by bearing in the case, and that it does not fit snugly within key-holes in the tumblers, so that while it prevents a revolution of the tumblers it does not entirely prevent a slight motion of the outer disc.

6 X Q. When did you personally first see a lock like Exhibit B?

A. About fifteen months ago or thereabouts.

36 7 X Q. Do you know whether any patent was ever issued for that lock or any part thereof?

A. I know that an application for a patent therefor was filed in the United States Patent Office March 13th, 1852, which application, I believe, was rejected. I do not know of any patent granted therefor.

HENRY R. TOWNE.

Adjourned to Wednesday, January 28th, at 11 o'clock a. m.

JOSEPH GUTMAN, JR., *Examiner*.

NEW YORK, WEDNESDAY, *January* 28, 1874—10 o'clock a. m.

Met pursuant to adjournment.

Counsel as before.

IRA L. CADY, a witness of lawful age, produced on the part of the defendant, having been first duly cautioned and sworn to testify the truth, the whole truth, and nothing but the truth in the matter of controversy herein, and being examined by MR. PLYMPTON, for the defendant, deposes and says:

1 Q. What is your name, age, residence, and occupation?

A. My name is Ira L. Cady; my age is 57 years; residence, No. 224 West 38th street, New York; and occupation, dealer in locks and safes.

2 Q. Have you read and do you understand the reissued letters patent No. 4488, dated July 25, 1871, issued to George Rosner, assignor to Halbert S. Greenleaf, for improvement in locks?

A. I have examined and understand the said reissued letters patent.

3 Q. Please look at "Defendants' Exhibit B," and state what, if anything, you know concerning the same.

37 A. I know it as the lock manufactured by Evans & Watson; I saw one of these locks in 1852 or 1853, I am not positive which, in the possession of the cashier of the Bank of Owego; the one I particularly examined was not in a door, and my recollection is that he had one in use on the door of his safe or vault; I have seen them in other places in use on safes and doors often since; I can designate them particularly, having seen some, and one in particular on an old safe in use by a diamond broker in Union Square.

4 Q. Compare with said reissued letters patent the lock marked "Defendants' Exhibit B," and state if you find any similarity between the devices in said lock and the devices described in said letters patent; and if you do find such similarity, give your reason for the same.

A. Claim No. 1 in said reissued patent relates mainly to changing the combination of the lock; I find them substantially alike in this particular or in the accomplishment of this object; in "Defendants' Exhibit B" I find a set of wheels consisting of an outer ring or rim and a central disc or hub and a set of fastening devices or bolts; these fastening devices are so constructed as to engage and disengage with a set of cogs on the central hub; and when disengaged, as it is done by means of a key passed through a hole in the back of the lock, allows said central discs to be turned in any desired position without affecting or in any way changing the position of the outer ring or rim; then by removing said key the two sets of discs are secured together and operated by the dial; this is substantially the case in said reissued letters patent; I can see no material difference in the method of changing the combination in "Exhibit B" and the method of changing the combination of the lock shown and described in said reissued letters patent.

5 Q. Please look at "Defendants' Exhibit B," and state whether or not you find a set of fastening devices which are made to fasten or unfasten an outer ring and a central disc, composing the

38 wheels of the lock, by the insertion of a key through each or all of the wheels, whereby the combination of the lock may be changed.

A. I do.

IRA L. CADY.

Sworn to before me, this 27th Jan'y, 1874.

JOSEPH GUTMAN, JR., *Examiner.*

Adjourned until Thursday, January 29th, 1874, at 11 o'clock a. m.

NEW YORK, THURSDAY, *January 29th*, 1874—11 o'clock a. m.

Met pursuant to adjournment.

Counsel as before.

Adjourned until Tuesday, February 3d, 1874, at 11 o'clock a. m.

NEW YORK, TUESDAY, *February 3d*, 1874—11 o'clock a. m.

Met pursuant to adjournment.

Counsel as before.

Counsel for defendants, by and with the consent of counsel for complainant, introduces as testimony in this case the deposition of Conrad Kerchner, taken by and sworn to before Henry Phillips, Jr., U. S. commissioner, at Philadelphia, Pennsylvania, on the 2d day of February, 1874.

39 This testimony is admitted upon the condition that the affiant be produced for cross-examination when required.

The said deposition is hereto attached and follows hereto.

CONRAD KERCHNER, being duly sworn, doth depose and say as follows, viz:

1 Q. Please state your name.

A. My name is Conrad Kerchner; I reside at 329 Juliana street, Philadelphia; I am 53 years of age; I am a locksmith.

2 Q. In what were you engaged at or about the year 1852 and afterwards?

A. I was with the firm of Evans & Watson, safemakers, of this city; I was there as locksmith; I went to them in 1845, and have remained with them and their successors continuously until the present day.

3 Q. What do you know in regard to the use by the said firm, Evans & Watson, of the lock before you, known by them as the alphabetical lock, and stamped "Evans & Watson's Patent, Philadelphia, 1852"?

A. In the year 1853 or 1854 (not later than 1854) Mr. James Watson, of the said firm, went to New York, and on his return stated that he had purchased the patent for this lock, and at the same time had purchased from the inventor of said lock thirty (30) of these locks; all these 30 locks we used on safes we sold and put in public use. Subsequently, within a year afterwards, we began making new locks of this same pattern and under said patent, over one hundred of which were also sold and put into public use.

4 Q. Please state if any or all of these locks were so constructed that the combination, by which is meant the relative position of the two discs composing each of the tumblers or wheels, could be changed by the insertion of a key through the back of the lock, the

40 change of combination being effected without opening the lock or removing any part thereof.

A. All of these locks were provided with a device of the nature referred to in the interrogatory, by means of which the combination was changed without opening the lock or removing the tumblers.

(Signed) CONRAD KERCHNER.

Sworn to and subscribed before me the 2d day of February, A. D. 1874.

HENRY PHILLIPS, JR.,
U. S. Com.

I certify the foregoing a true copy.
[SEAL.] HENRY PHILLIPS, JR.,
U. S. Com., Phila.

It is hereby consented that the above deposition be read in evidence upon the condition that the witness be produced for cross-examination.
Feb. 3, 1874.
EDMUND WETMORE,
Pl'ff's Counsel.

41 NEW YORK, TUESDAY, *February 10th*, 1874—11 o'clock a. m.
Met pursuant to adjournment.
Counsel present.
Further adjourned to Tuesday, February 17th, at 11 o'clock a. m.
JOSEPH GUTMAN, JR.,
Examiner, etc.

NEW YORK, TUESDAY, *February 17th*, 1874—11 o'clock a. m.
Met pursuant to adjournment.
Counsel present as before.
Adjourned to 1 o'clock p. m.

1 O'CLOCK P. M.

Counsel present.
Adjourned to Friday, February 20th, 1874, at 10 o'clock.

NEW YORK, FRIDAY, *February 20th*, 1874—11 o'clock a. m.
Met pursuant to adjournment.
Counsel present as before.

IRA L. CADY, being recalled for the defendant, and being examined by Mr. PLYMPTON, says:

6 Q. Please look at the lock now shown you, and which is marked "Defendant's Exhibit E," and state what, if anything, you know, concerning the same.

A. I recognize the lock before me, and so marked as the
42 "Defendant's Exhibit E," as the Butterworth patent, generally made by George D. Baldwin, who is now deceased. I have been conversant with locks of this kind, made under this patent, more or less since 1847. I have frequently sold them and applied them to safe and vault doors, and been conversant with their working for many years. I have studied the lock carefully with the inventor, Mr. Butterworth. I don't mean to say that I have sold and applied this individual lock which is marked "Defendant's Exhibit E," but my answer refers to locks generally made precisely the same as this. The feature of the lock on the back of said "Exhibit E," locking the same upon the case, was first applied to these locks, about 1856, not later; locks like "Exhibit E" are at present in use, two at the National Metropolitan Bank in this city, one at the Seamen's Savings Bank, two at the Bowery Savings Bank, one at the Oriental Bank, and many other places which I cannot now recall.

I remember distinctly of having put one upon a safe which was burned in the fire at the Crystal Palace in 1857, which was applied in 1856. That safe and lock are now in use by the Metropolitan Bank. All the locks above named, except two, were so put on and sold previous to 1860.

Counsel for defendant offers in evidence lock marked "Defendant's Exhibit E."

5 Q. Please compare the lock marked Defendant's Exhibit E" with the said Greenleaf reissued patent, and state if you find any similarity existing between the devices described and claimed in said reissued patent, particularly in the fourth claim thereof; and if you do find such similarity, give your seasons for finding the same?

A. They are similar in several respects, both being combination locks, or locks in which the tumblers are set consecutively by hand; and in reference to the fourth claim in said Rosner patent, I find substantially the same device, and for the same purpose, in the Butterworth lock. I find a wheel or cam in said Butterworth lock
43 answering to the disc marked "E" in said patent. I also find a spindle, on which the said cam is secured and fastened. I also find a dog answering to and used for the same purpose described in said patent. I also find the wheels, which in the said patent are marked N N N, although of a little different construction. I also find that the disc "E," when revolving by means of the shaft, also holds the dog "F" from contact with the wheels while they are being set by the combination. I can see no particular difference in the construction and the object attained by the lock referred to in said fourth claim and the said Butterworth lock, except the disc "E" is placed on the inner end of the spindle and back of the tumblers, instead of the outer end of the spindle and the front of the tumblers, as in the Rosner patent—a mere difference of position. The two stacks of tumblers inside of the lock case, securing the bolt of the lock, operate in the same way as the lock on the back plate, which I have above described. The operation of the cam which holds the fence or dog from contact with the tumblers is more perceptible in the stacks of tumblers in the body of the lock than in the lock on the back plate.

And being cross-examined by Mr. WETMORE, he says:

8 X Q. Do you find any gate or notch in the disc "E," attached to the spindle described in the fourth claim of the Rosner patent?

A. No; there is no gate in this Rosner disc. The same object is accomplished by pulling it out, and letting the fence or dog drop, there being an end motion to the shaft of about an eighth of an inch.

9 X Q. What is the function performed by the gate in the cam, in the Butterworth lock; which cam, in your opinion, corresponds to the disc "E"?

A. When the tumblers are set in the Butterworth lock by the combination, by reversing the motion and turning to a certain point,

the fence or dog falls into the notch in the cam as well as in the tumblers, releasing the bolt.

44 10 X Q. And you state that you find the same result as is mentioned in your last answer is attained in the Rosner lock by withdrawing the spindle with the disc "E" attached to it. Do you regard that result as attained by means operating in the same way in both locks, or do you regard the identity between them in this respect as confined simply to the result produced and not by the means of producing that result?

A. In the Rosner lock the result of the dog "F" falling into the tumblers or on to them, if they are not right, is accomplished by withdrawing the shaft and the disc attached to it instead of reversing the motion, as before stated in the Butterworth lock. The same result is attained in each, namely, holding the fence or dog off from the tumblers while they are being set, though by a little different process.

11 X Q. Suppose the diameter of the tumbler "N" (shown in the drawing, Fig. 1, in the Rosner patent), on the inside farthest from the knob, were made larger than the diameters of the two outer tumblers "N N" and the disc "E" removed, and so that the dog "F" would rest upon such outer tumbler, in what respect, if any, would that outer tumbler differ in its operation from the cam already mentioned in the Butterworth lock?

A. If the disc "E" was removed, of course the dog would rest on the largest tumbler, whichever it might be. If "N" on the inside was the largest it would rest on that, and would be held thereby off the others while that was being set. The small tumbler "N," referred to on the inner side of the stack of tumblers of the Rosner drawing and referred to in the last question, is not attached to the spindle, as in the Butterworth lock.

12 X Q. What does the dog in the Butterworth lock rest upon when the tumblers are not set and the gate of the cam is immediately beneath the dog?

A. It rests upon the outer edge of the tumblers precisely as it would in the Rosner lock if the shaft was drawn out.

45 13 X Q. You stated that the resting of the dog on the cam was more perceptible in respect to the tumblers inside the lock than in respect to the tumblers on the cap. Can the place where the gates passes the dog be perceived by simply turning the outside or main knob of the lock by hand?

A. The cam or disc attached to the shafts in the body of the lock appears to be a trifle larger in diameter, compared with the tumblers, and is a little more perceptible for that reason in revolving the key or dial than it is on the cap lock. I can feel slightly the notch on the cam in the body of the lock where it is not so perceptible on the cap.

And being re-examined by Mr. PLYMPTON, he says:

14 Re-D. Q. Does not the Rosner lock afford the same facility for feeling and measuring the point of contact of the fence and tumblers as does the Butterworth lock?

A. In my judgment, it is more readily measured in the Rosner than in the Butterworth, for the reason that in the Rosner lock the fence or dog can be brought in contact with the tumblers at any given point or number of the dial, and thus measurement made or registered, while in the Butterworth lock the fence falls at only one point, and it affords no facility thereby of measuring the notches of the tumblers, because the tumblers cannot be moved from the position in which they are in contact with the dog without again throwing the dog off their edges by revolving the shaft.

And being further cross-examined by Mr. WETMORE, he says:

15 Re-X Q. Would it always happen in the Rosner lock that the dog would fall upon the tumblers if the dies "E" were withdrawn, whether the tumblers were set or not?

A. As I understand the Rosner patent, the fence or dog would engage with the tumblers at any point, whether they were set
46 right or not. On a careful examination of the lock I find that the dial cannot be withdrawn at all points, but only at intervals of about one-quarter of the diameter of the disc "E."

16 Re-X Q. If the dial is withdrawn at the points you have last mentioned, and the tumblers are not then set, you find nothing in the Rosner patent to prevent the dog from falling upon the tumblers?

A. I am not able to find anything.

IRA L. CADY.

Sworn to before me, this 20th day of February, 1874.

JOSEPH GUTMAN, JR.,
Examiner, &c.

Adjourned until the — day of February, 1874.

NEW YORK, *October* 6, 1874—11 a. m.

Present: G. M. Plympton, Esq., counsel for defendant, and E. Wetmore, Esq., counsel for complainant.

Adjourned to 1.30 p. m. same day.

NEW YORK, *October* 6, 1874—1.30 p. m.

Present, counsel as before.

EDWARD S. RENWICK, a witness of lawful age, produced on the part of the defendant, having been by me first duly cautioned and sworn to testify the truth, the whole truth, and nothing but the truth, in the matter of controversy herein, and being examined by Mr. PLYMPTON, deposes and says as follows:

Q. 1. What is your name, age, residence, and occupation?

A. My name is Edward S. Renwick; I am 51 years old; I reside at Milburn, N. J., my place of business being the city of New
47 York; I am by profession a mechanical and civil engineer, but am occupied almost exclusively in acting as expert in the trials of patent causes and in soliciting patents.

Q. 2. Please state what experience, if any, you have had in

mechanics, especially respecting the construction of combination locks.

A. I was engaged for a number of years almost exclusively in the construction of machinery and in the superintendence of machinery in motion; for more than 25 years I have been engaged in my present business, and during that period I have had to make numerous investigations in the history of the useful arts in books on patents, and in the recorded descriptions of American and foreign patents, for the purpose of ascertaining whether patented inventions of many description were novel or otherwise; I have also examined a great number of machines for performing many different operations in the useful arts; I have operated many different machines of different descriptions and have adjusted them for use; I have been called upon to testify in a great number of patent causes, being called upon many times every year for that purpose; I have been called upon to testify as expert in various cases in which the construction and operation of locks and lock mechanism was the subject-matter of the controversy; I have examined a large number of locks of various descriptions and a great number of patents relating to the construction of locks and lock mechanism; I have also had to prepare specifications for patents for locks and lock mechanism.

Q. 3. Have you read and do you understand reissued letters patent granted to George Rosner on the 25th day of July, 1871, No. 4488, particularly the subject-matter of the first claim thereof?

A. I have read a Patent Office copy of the reissued patent recited in the question, and believe that I understand the construction and operation of the mechanism described and represented therein, and particularly that recited in the first claim of the said reissue.

48 Q. 4. Examine carefully defendant's Exhibit B, and state if you find in said exhibit any of the features described, shown, and claimed in the first claim of said reissued letters patent, and if you do so find, give your reasons for the same particularly and at large.

A. I have examined the said Exhibit B, and find that it contains in substance substantially the same combination of devices as is recited in the first claim of the said reissued patent; my reasons for this opinion are as follows: The combination recited in the said claim, as I understand the said reissue, consists of: first, a set of wheels, each consisting of an outer ring or rim and a central disc or hub, which rim and central disc can be turned relatively to each other for the purpose of making a new combination of the wheels of the lock; second, of a set of fastening devices or bolts, one of which is applied to each wheel, and is made to fasten or unfasten the said parts composing the wheel by the insertion of a key through each or all of the wheels. In order that the parts of the wheels may be thus fastened and unfastened, an opening is made in each wheel for the passage of the key by which the fastening device or bolt is to be operated, so that when these openings are placed opposite each other, and a corresponding opening or keyhole in the lock case, the key may be applied from the exterior of the lock case to

operate the fastening devices, and thus permit the change of the combination of the lock, and also the refastening or locking of the parts of the wheels in place again without removing the wheels themselves from the lock, and without opening the lock case; now I find in Exhibit B that there is a set of wheels corresponding substantially with the set recited in the said claim, which set in said Exhibit B is the set of four wheels whose rims are notched; each of these wheels, as recited in the said claim, consists of an outer ring or rim and a central disc or hub; moreover, the outer ring or rim of each of those wheels corresponds with the rim of the
49 wheels of the said reissue in having a notch or gate for the entrance of the dog which must be permitted to move into the notches of the wheel before the bolt can be unlocked; and the central disc or hub of each of the wheels of Exhibit B corresponds with the central disc or hub recited in the said claim, in being provided with teeth with which the fastening device engages; I also find that in Exhibit B there is a set of fastening devices or bolts, one for each wheel, which fastening device on said Exhibit B is the toothed steel bar that is arranged to move to and fro on the outer portion of the wheel, and which fastening device corresponds with each of those recited in the said claim, in having a tooth to engage with the teeth of the central disc or hub of the wheel, so as to fasten the two parts of the wheel together, and to permit them to be unfastened by the movement of the said fastening device; I also find in said Exhibit B that each of the four wheels, composing the set, has an opening made in it for the passage of the key by which the fastening device is to be operated, as required in the said claim, and that the said openings in the said wheels are placed opposite to each other and to a keyhole in the lock-case, so that a key may be inserted through each or all of the wheels, as recited in the said claim, from the exterior of the lock-case, to operate the fastening devices, and thus permit the change of the combination of the lock and also the refastening or locking of the parts of the wheels in place again without removing the wheels themselves from the lock and without opening the lockcase.

In making the above statement I have taken into consideration the fact there are some differences in the construction of the parts of the lock represented in the said reissue and of Exhibit B: thus, for example, in Exhibit B, the central disc or hub of each wheel is made of a single piece of metal; while the corresponding central disc or hub of the lock represented in the said reissue is made of two pieces of metal rigidly se-
50 cured together, so as to allow them to move the same as if they were a single piece. Again, in the said Exhibit B, the locking piece of each wheel has but one tooth, which the locking piece represented in the drawing of the said reissue has three teeth. Again, when the fastening pieces are being locked and unlocked, the rings or rims of the wheel are held stationery in the lock represented in the drawings of the patent by the key, which is then inserted through them, while during the same operation with Exhibit B the rims are held stationary by the engagement of the dog in

their gates or notches. Again, in Exhibit B the wheels are set in succession by a single driving-pin, which is disengaged progressively from each of the wheels as it is set, while in the lock represented in the drawings of the patent the wheels are set in succession by driving-pins applied to the wheels, and the driving-pin which is used to set each wheel is disengaged from it after it is set; but I am of opinion that the said differences do not change the fact that the said Exhibit B contains in substance the same combination of devices as is recited in the first claim of the said reissued patent, because, as I understand the said reissue, the combination recited in the first claim is not restricted to any of the peculiarities above mentioned, in which the lock represented in the drawings of the patent differs from Exhibit B, and in other respects which are recited in the claim and described in the said reissue, the combination found in Exhibit B is the same as that recited in the said first claim.

Examination adjourned to October 12, 1874, at 11 a. m.

JOSEPH GUTMAN, JR.,
Examiner, &c.

51 NEW YORK, *October* 29, 1874—11.30 a. m.

Present: Mr. Plympton, counsel for defendant, and Mr. Wetmore, counsel for complainant.

Mr. E. S. RENWICK, being further examined by Mr. PLYMPTON, deposes and says:

Q. 5. Look at the reissued patent No. 4488, and state whether or not, as you understand the said patent, the keyholes in the several wheels constitute elements of the combination recited in the first claim of the said reissued patent?

A. In my opinion they do not, because they are not recited in the claim or described in the patent as parts of the said combination, and because, also, the combination of the wheels and fastening devices recited in the said claim may be made operative for all the valuable results mentioned in the description on the two paragraphs commencing with the words "Prior to my invention," and "I obviate," without having any keyholes in the wheels. Thus, for example, the wheels might be constructed with a slot in the edge of each, through which a bit of a key might be arranged to turn for the purpose of operating the locking mechanism, and the key might be arranged to turn at one side of the peripheries of the series of wheels. Moreover, as it is not essential that the key should hold the wheels while the locking devices are being operated, and while the tumbler wheels are being set to a new combination, the use of keyholes in the wheels, for the purpose of enabling the key to hold the wheel, is unnecessary.

Q. 6. You have stated, in your last answer, that it is not essential that the key should hold the wheels while the locking devices are being operated, and while the tumbler wheels are being set to a new combination, and that the use of the keyholes in the wheels

52 for the purpose of enabling the key to hold the wheels is unnecessary, please give your reasons for so stating.

A. The reason for my statement is, that during the time the tumbler wheels are being set for the purpose of changing the combination their rims may all be held stationary by means of an instrument inserted into the gatings of the tumblers, in which case the key would not be required to hold the rims in a fixed position during a changing of the combination, and keyholes, fitting tightly to the body of the key, would be unnecessary, for the same reason.

E. S. RENWICK.

Sworn to before me—

JOSEPH GUTMAN, JR., *Examiner.*

Examination adjourned to Oct. 30, 1874, at 11 a. m.

JOSEPH GUTMAN, JR., *Examiner, &c.*

53 United States Circuit Court, Southern District of New York.

In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY. } Case 3.

Proofs for Final Hearing in Rebuttal in the above-entitled Cause, taken before Edward G. Thompson, one of the Standing Examiners of the Court, under and pursuant to the 67th Rule in Equity, as amended.

NEW YORK, *October* 31, '74—2 p. m.

Present: Mr. Wetmore, of counsel, with complainant, and Mr. Plympton, of counsel, with defendant.

HENRY B. RENWICK, a witness recalled on the part of the complainant, in answer to interrogatories propounded by Mr. WETMORE, says:

1 Q. Please examine the lock, Defendant's Exhibit B, and
54 state whether or not you find therein the combination and devices set forth and described in the description and first claim of the specification of the reissued letters patent granted to James Rosner on the 25th day of July, 1871, No. 4478, and if you say you find any similarity or dissimilarity between the said lock and the combination and devices described in said patent, please give your reasons therefor.

A. The lock, Defendants' Exhibit B, does contain some of the elements which make up the combination referred to in the first claim named in the question, but does not contain all of them.

It has a set of wheels consisting each of an outer rim and a central disc; also a set of fastening devices or bolts, by means of which the rim and disc of each wheel may be secured, so as to revolve together, or may be permitted to revolve separately, when the fastening device is unlocked; but it has no key-holes through the outer rims of the wheel.

A key-hole is an orifice which supports a key in a certain position so that it can act upon the bolt and other parts of the lock, and it must so support the key in order that it may perform its work properly. Therefore if a key be put into the key-hole of an ordinary lock the lock cannot be moved in straight lines unless the key is moved with it.

In the lock described in the Rossner reissue referred to in the question each outer rim has a key-hole in it, this key-hole being formed in a little cam, which, when turned by the key, operates the fastening devices. These cams always occupy the same position in the rims, and the key therefore performs two duties, viz: first, that of locking and unlocking the fastening devices; and, secondly, the duty of holding all the rims at rest, with their gates coincident, and the rims must be held in this position when the combination of the lock is to be changed.

The key of the lock, Exhibit B, does not and cannot perform this duty, owing to the absence of key-holes in the rims, and as I consider the key-hole one of the elements of the combination of
55 the first claim of the Rossner reissue I do not find that combination in Exhibit B.

Adjourned, by consent, to November 7, 1874, at 11 a. m.

NEW YORK, *Nov.* 2, 1874—11 a. m.

Met pursuant to adjournment.
Present: Counsel as before.

And the witness, HENRY B. RENWICK, further answering interrogatories by Mr. WETMORE, says:

2 Q. Please state if you knew of the lock, Defendant's Exhibit B, at the time of giving your testimony in this case in the complainant's opening evidence.

A. I did not. If I had have known of it I would have referred to it while mentioning the various contrivances which I knew of for changing the combination of tumblers, invented or in use, before the date of Rossner's patent.

3 Q. Do you find any paragraph in the Rossner patent which describes the office of the key in holding the rims of the wheels at rest, while the centers thereof may be turned by the spindle so as to set the lock to a new combination?

A. I do. The paragraph is on the first column of the second page of the Patent Office copy of the patent, and reads as follows: "When the key is inserted, etc., the rims of the wheels are held stationary by the key, while the center may be turned, etc."

4 Q. Please compare the lock, marked Defendant's Exhibit E, with the combination and devices set forth and described in the description and fourth claim of the reissued Rossner patent, and state whether or not you find in the said lock the said combination and devices, and give your reasons for any opinions you may express.

A. I do not; I find in the Exhibit E a stack of wheel
56 tumblers, revolved by means of a spindle and pins, and the outer one of these tumblers, namely, the brass one, appears

to be a little larger than the others, so that the dog, as it is called in the Rossner patent, rides upon this larger tumbler so long as the notch in it is kept away from under the dog; but when this notch is under the dog, then the dog rides upon the other tumblers, and they can at the same time be moved by the spindle, so that the bearing of the dog upon the tumblers can be measured, while the notch in the brass tumbler or wheel is passing under the dog.

Now, in this exhibit, there is no sliding knob spindle capable of being shoved in and out, nor is there any disc attached to and capable of sliding with that spindle; two of the elements, therefore, of the fourth combination of the Rossner reissue are not found in Exhibit E.

In the Rossner lock, when the spindle is pulled outward or away from the front of the door, it cannot turn the tumblers, although it can move the bolt; when it is pushed inwards, holding the dog off the tumblers, it can turn the tumblers, but cannot turn the bolt, and it has this mode of operation in consequence of the existence in the lock, both of the sliding spindle and sliding disc.

In Exhibit E, on the contrary, the spindle, which, as before stated, is not sliding, is at all times ready to operate both upon the tumblers and the lock bolt.

Adjourned, by consent, to November 7, 1874, 11 a. m.

NEW YORK, *Nov.* 7, 1874—11 a. m.

Met pursuant to adjournment.

Present: Counsel as before.

And the witness, H. B. RENWICK, being cross-examined by Mr. PLYMPTON, says:

57 5 X Q. Please look at the lock now shown you, and which is marked Defendant's Exhibit B, and state whether, if the lock referred to had been made subsequently to the date of complainant's patent in suit, would you, as an expert, consider it as infringing said letters patent as you understand them?

A. No; not under the interpretation or construction which I give to the claim.

6 X Q. Please state that interpretation and construction in full, and in detail—pointing out, in doing so, the reasons you would have for not considering Defendant's Exhibit B an infringement, if made after the date of the patent?

A. I have already in substance answered that question, and might refer you to answers 1, 2, and 3 in my direct examination in rebuttal for an answer. I now say again that Defendant's Exhibit B would not be an infringement, even if made after the patent, under the construction which I put upon the claim, because it has in the outer rims of the wheels or tumblers no key-hole, nor any equivalent for key-holes, by means of which the key can hold the outer rims at rest, while the combination is being changed, as I understand it; and, as I have stated several times before, the claim includes key-holes as one element of that combination, and the patent describes such office of the key in connection with the key-holes.

Adjourned to Nov. 12th, 1874, 3 p. m.

NEW YORK, *Nov.* 12, 1874—3 p. m.

Present: Counsel as before.

And the witness, H. B. RENWICK, being further cross-examined by Mr. PLYMPTON, says:

7 X Q. Assuming that the vault is locked up, or the door thereof, and that you wished to change the combination of the lock affixed to the door, is it not absolutely necessary that the bolt of the
58 lock should be retracted before the combination can be changed, if the lock so affixed was the lock shown and described in the plaintiff's patent, on which this suit was brought?

A. The door must be opened before you can get at the back of the lock to insert the little key to change the combination. In order to open the door the bolt must be retracted; but the combination can be set in the lock shown in the patent either at that time or with the bolt shot out again and in the locked position.

8 X Q. Look at the lock, Defendant's Exhibit B, and state if it is necessary in that lock to also retract the bolt in order to adjust the combination, when it is necessary to change the same?

A. I suppose the question is put under the same conditions as the other—so that the bolt must be retracted, and the door be opened, before the back of the lock can be got at to insert the little key. But in this lock the combination must be changed when the bolt is retracted, and can only be changed when it is so retracted, because the tail of the bolt must enter the gatings in the tumblers in order to hold the outer rims thereof at rest while the combination is being changed.

9 X Q. Then do you state that if a vault or safe door be fitted with either of the locks shown and described in plaintiff's patent, or the lock Defendant's Exhibit B, indifferently, and that this door is shut and locked, that it is necessary, before the adjusting or little key can be used, that the bolt of the lock, whichever kind it may be, should be retracted?

A. Yes; in order that the user may get at the back of the lock, which is on the inside of the door, to insert the little key.

And, being further examined by Mr. WETMORE, says:

10 Re-D. Q. In the lock Exhibit Cole, No. 2, which has the tumbler of said lock fastened to it, in what condition must the lock be when the combination made by the tumblers is changed by the insertion of the little key?

59 A. It must be in the locked condition. If this lock were put on a door, and the door was locked, it would be necessary to unlock it, then to open the door, and then to lock it again, with the door open, before the combination could be changed.

HENRY B. RENWICK.

Subscribed and sworn to, the 12th day of November, 1874.

E. G. THOMPSON,
Examiner.

60 *Decree.*

Circuit Court of the United States of America for the Second Circuit and Southern District of New York. April Term, A. D. one thousand eight hundred and seventy-five.

HALBERT S. GREENLEAF, Complainant,
vs.
THE YALE LOCK MANUFACTURING COMPANY, Defendant. } Suit No. 3.

This cause having been brought to a final hearing upon the pleadings and proofs, and George T. Curtis and Edmund Wetmore having been heard on the part of the complainant, and Gilbert M. Plympton on behalf of the defendant, and thereupon, upon
61 consideration, it was and is ordered, adjudged, and decreed that the reissued letters patent numbered 4488, dated July 25th, 1871, granted to Halbert S. Greenleaf, the complainant, as assignee of George Rosner, and being the letters patent referred to in the complainant's bill, is a good and valid patent, and that the said George Rosner was the original and first inventor of the improvements described and claimed in said patent, and the said Halbert S. Greenleaf is the exclusive owner thereof, and that the defendant, The Yale Lock Manufacturing Company, has infringed upon the said patent and upon the exclusive rights of the complainant under the same.

And it was and is further ordered, adjudged, and decreed that the complainant recover of the defendant, The Yale Lock Manufacturing Company, the gains, profits, and advantages which the said defendant, The Yale Lock Manufacturing Company, has received or made, or which has arisen or accrued to it from said infringement of said patent by the manufacture, use, or sale of the improvements described and secured by said reissued letters patent numbered 4488, and the damages sustained by the complainant over and above the said profits, gains, and advantages.

And it was and is further ordered, adjudged, and decreed that the said complainant recover of the said Yale Lock Manufacturing Company the costs and disbursements in this suit to be taxed.

And it is further ordered, adjudged, and decreed that it be referred to Edward G. Thompson, Esquire, who is hereby appointed master *pro hac vice*, to ascertain and take and state and report to the court an account of the damage sustained by the complainant, and of the gains, profits, and advantages which the said defendant has received, or which have arisen or accrued to it since the 25th day of July, 1871, from infringing the said exclusive rights of the complainant by the manufacture, use, or sale of the said improvements set forth and described in said letters patent.

62 And it was and is further ordered, adjudged, and decreed that the complainant on such accounting have the right to cause an examination of the officers and agents of the said defendant, The Yale Lock Manufacturing Company, *ore tenus* or otherwise, and also the production of the books, vouchers, and documents of said Yale Lock Manufacturing Company, and that the said officers

and agents attend for such purpose before said master from time to time as said master shall direct, and produce said books, vouchers, and documents as ordered; and the said master is authorized and empowered to take testimony, summon witnesses, and conduct such accounting anywhere within the second circuit of the United States circuit court.

Amended by order filed May 12th, 1875.

N. SHIPMAN, *Judge.*

(Endorsed:) Circuit court of the U. S., 2d circuit, southern dis't of N. Y. Halbert S. Greenleaf, compl't, *vs.* The Yale Lock Manufacturing Company, def't. Decree. Suit No. 3. Please take notice that the within decree will be presented to the Honorable Judge Shipman for settlement at the U. S. circuit court, at the U. S. court-room, in the city of New Haven, Connecticut, on Tuesday, the 27th day of April, 1875, at the opening of the court on that day, or as soon thereafter as counsel can be heard. Yours, &c., James H. Fay, compl't's sol'r. Filed April 29, 1875. To G. M. Plympton, def't's sol'r.

63 United States Circuit Court, Southern District of New York.
In Equity.

HALBERT S. GREENLEAF, Complainant,
vs.
THE YALE LOCK MANUFACTURING COMPANY, Defendant. } Suit No. 3.

Master's Report.

Under the decree entered herein at the April term of this court, in the year 1875, the undersigned, Edward G. Thompson, was named as master *pro hac vice* to ascertain and take and state and report to the court an account of the damage sustained by the complainant, and the gains, profits, and advantages which the defendant has received or which have arisen or accrued to it since the 25th of July, 1871, from infringing the exclusive rights of the complainant, by the manufacture, use, or sale of the improvement set forth and described in reissued letters patent, dated 25th July, 1871, granted to Halbert S. Greenleaf, as assignee of George Rosner, and numbered 4488.

64 In this suit the defendant is decreed to have infringed the first claim of the above patent in the manufacture and sale of "safe locks."

Which claim is as follows:

"In a permutation lock, in combination with a set of wheels consisting each of an outer ring or rim and a central disc or hub, a set of fastening devices or bolts, *r r*, which is made to fasten or unfasten said parts composing the wheels by the insertion of a key through each or all of the wheels, whereby the combination of the lock may be changed, substantially as herein specified."

And also to have infringed the fourth claim of said patent in its manufacture and sale of "bank locks."

Which is as follows:

"This disc E, attached to the spindle C, when combined with the dog F and the wheels N, N, N, so as to support said dog from said wheels when the spindle is engaged with the wheels, and to allow said dog to fall when disengaged, substantially as specified."

The complainant has successfully prosecuted infringers of these claims, and in one case, for infringement of the fourth claim in the manufacture and sale of bank locks, a settlement was arrived at, and the infringer, one George Damon, of Boston, was licensed at $20.00 per lock.

Several suits against infringers of the first or "key-changing tumbler" claim of this patent were also successfully prosecuted by complainant and settlement obtained. One of such infringers, Timothy J. Sullivan, of Albany, after settlement for past infringement, was granted a license under this patent and the patent granted to
Lyman F. Munger, known as the Munger patent wheel,
65 "owned or owned in part by complainant, at a license fee of $500 per year for the privilege of making 75 locks per year; that is, $6.66 per lock; and if he manufactured more than 75 locks in a year he was to pay $10 per lock.

Of the licenses granted by complainant under this and the Munger patent, two-thirds of the royalty received was allowed to the Munger patent and one-third to the Rosner patent, on which this suit is brought. (Complainant's record, fol's 258, 259.)

Under this division of royalty the license fee on "bank locks" for the use of the Rosner patent would be $6.66 per lock.

And on the "fire-proof safe locks," taking the smaller license fee of $500 a year for 75 locks, $2.22 per lock.

These licenses form, in my opinion, under the decision of the Supreme Court in Burdell *vs.* Denning, 2 Otto, 716, 719, the measure of damages which the complainant is entitled to recover from the defendant for its infringement of this patent.

I therefore find that the complainant should recover from the defendant the sum of $6.66 per lock on 536 "bank locks"	$3,569 76
And $2.22 on 2,999 of "fire-proof safe locks"	6,657 78
In all	$10,227 54

All of which is respectfully submitted.

E. G. THOMPSON,
Master Pro Hac Vice.

United States Circuit Court, Southern District of New York. In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK M'F'G CO. } Suit No. 3.

SIR: Please take notice that I have completed my report
66 as master in the above-entitled cause, and shall read the same at my office, No. 16 Murray street, on Friday, Aug. 31st,

at 11 a. m. You are requested to be present at that time and place.

Please take further notice that on said 31st day of August I shall fix the time within which any exceptions to this report may be filed with me, and the time for any argument before me on such exceptions. If no exceptions are filed before the time fixed, then the report will thereafter be filed endorsed "that this notice was given to counsel and no exceptions were filed."

E. G. THOMPSON,
Master P. H. V.

Dated New York, Aug. 27, 1877.

To Edmund Wetmore, Esq., counsel for compl't.
F. H. Betts, Esq., counsel for def't.

Exceptions by and on the part of The Yale Man'f'g Co., Defendant in Above Action, to the Report of Edmund G. Thompson, Master, to Whom this Cause was Referred by an Order Entered at the April Term of this Court in the Year 1875.

67 U. S. Circuit Court, Southern District of New York. In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MAN'F'G CO. } Suit No. 3.

First. The said defendant excepts to the finding and report of said master, as stated in his said report, for that he finds and reports that the settlements arrived at with George Damon, of Boston, and with Timothy J. Sullivan, of Albany, or either of them, were
68 any measure whatever of the damages which the complainant should recover from the defendant.

Whereas the said master should have found and reported that no established license fee was shown to have existed for the use of the complainant's invention, and that the damages could not be ascertained by reference to any license fee or settlement.

Second. The defendant further excepts to said report for that said master erred in finding and reporting that the sum of $10,227.54, or any other sum whatsoever, should by recovered by the complainant from the defendant.

Third. The defendant also excepts to said report for that said master erred in not reporting that no profits & no damages were shown.

BETTS, ATTERBURY & BETTS,
69 *Def't's Sol'rs.*
FREDERIC H. BETTS, *Counsel.*

Each and every of the above exceptions is disallowed.

E. G. THOMPSON,
Master P. H. V.

(Endorsed:) U. S. circuit court, southern district of New York In equity. Halbert S. Greenleaf *vs.* The Yale Lock Man'f'g Co Suit No. 3. Exceptions to master's report. Betts, Atterbury & Betts def't's sol'rs, 20 Nassau St.

70 (Endorsed over all:) Circuit court of the United States, southern district of N. Y. In equity. Halbert S. Greenleaf, complainant, *vs.* The Yale Lock Manufacturing Company. Master's report and exceptions. U. S. circuit court. Filed Oct. 29, 1879. John I. Davenport, clerk.

71 *Exceptions by and on the part of The Yale Lock Manufacturing Co., Defendant in the Above Action, to the Report of Edward G. Thompson, Master, to Whom this Cause was Referred by an Order Entered at the April Term of this Court in the Year* 1875.

United States Circuit Court, Southern District of New York. In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY. } Suit No. 3.

First. The said defendant excepts to the finding and report of said master, as stated in his said report, for that he finds and reports that the settlements arrived at with George Damon, of Boston, and with Timothy J. Sullivan, of Albany, or either of them, were any measure whatever of the damages which the complainant should recover from the defendant.

Whereas the said master should have found and reported that no established license fee was shown to have existed for the use of the complainant's invention, and that the damages could not be ascertained by reference to any license fee or settlement.

72 Second. The defendant further excepts to said report for that said master finds and reports the sum therein assessed as damages.

Notwithstanding the fact that said master has not found or reported that the complainant had any established license fee or fees for the use of the patented invention.

Third. The defendant further excepts to said report for that said master finds and reports the sum therein assessed as damages.

Notwithstanding the fact that it was conceded that the settlements upon which his finding was based were exceptional cases unlike and inapplicable to the case or the situation and condition of the defendant.

Fourth. The defendant further excepts to said report for that said master finds and reports the sum therein assessed as damages.

Notwithstanding the fact that the complainant himself testified that he had no established license fee, and never intended to establish one.

Fifth. The defendant further excepts to said report for that said master finds and reports the sum therein assessed as damages.

Notwithstanding the fact that the alleged settlements on which the said finding is based were manifestly inapplicable to the case of the defendant or any rule of damage.

Sixth. The defendant further excepts to said report for that the rule and amount of damage derived from following the exceptional

settlements, upon which it is based, give to the complainant more than his actual damage from the alleged infringement of the defendant, and hence the sum awarded is not the actual damage suffered by the complainant.

73 Seventh. The defendant further except to said report for that the prices and amounts imposed upon the defendant by following the exceptional settlements aforesaid are plainly extravagant and ruinous, and more than the actual damage of complainant, and impossible to have been realized or received by complainant as license fees from such a business as defendant's and impossible to have been paid in the course of business by defendant.

Eighth. The defendant further excepts to said report for that said master erred in finding and reporting that the sum of $10,227.54 or any other sum whatsoever should be recovered by the complainant from the defendant.

Ninth. The defendant also excepts to said report for that said master erred in not reporting that no profits and no damages were shown.

BETTS, ATTERBURY & BETTS,
Defendant's Solicitors.

FREDERIC H. BETTS, *Counsel.*

(Endorsed:) U. S. circuit court, southern district of N. Y. Suit No. 3. In equity. Halbert S. Greenleaf *vs.* The Yale M'f'g Co. Exceptions to master's report. Betts, Atterbury & Betts, def't's sol'rs. 20 Nassau St. U. S. circuit court. Filed Oct. 24, 1877. John I. Davenport, clerk.

74 Circuit Court of the United States of America for the Second Circuit and Southern District of New York, as yet of the April Term, A. D. one thousand eight hundred and seventy-five.

JAMES SARGENT, Complainant,
against
THE YALE LOCK MANUFACTURING COMPANY, Defendant. } Two Suits.

HALBERT S. GREENLEAF, Complainant,
against
THE YALE LOCK MANUFACTURING COMPANY, Defendant. } One Suit.

A motion having been made to resettle and amend the decrees in these suits, and after hearing counsel, and due consideration having been had, it is hereby ordered, adjudged, and decreed that the

75 decrees in each of the said suits, entered the 29th day of April, 1875, be amended so as to read, after the words "Edward G. Thompson" in such decrees, as follows: "Who is hereby appointed master *pro hac vice*," in the place of the words "one of the masters of this court residing in the city of New York;" and by the insertion, after the words "and produce said books, vouchers, and documents as ordered" in such decrees, of the words:

"And the said master is authorized and empowered to take testimony, summon witnesses, and conduct such accounting anywhere within the second circuit of the United States circuit court."

And the clerk is authorized to correct the said decrees, now entered and on file, by making the said alterations and insertions.

Dated New York, May 12th, 1875.

(S'g'd) N. SHIPMAN, *Judge.*

76 (Endorsed:) U. S. circuit court. James Sargent *v.* Yale Lock Man. Co. Halbert S. Greenleaf *v.* Yale Lock Man. Co. 3 Suits. Amendment to decree. Filed May 12, 1875.

77 United States Circuit Court, Southern District of New York

JAMES SARGENT *vs.* THE YALE LOCK M'F'G CO. } No. 1.

SAME *vs.* SAME. } No. 2.

HALBERT S. GREENLEAF *vs.* SAME.

I hereby consent that Messrs. Betts, Atterbury & Betts be substituted as solicitors for the defendant in the above-entitled suits in my place.

New York, January 16th, 1878.

G. M. PLYMPTON,
Sol'r for Def'ts.

78 (Endorsed:) U. S. circuit court, south. dist. of N. Y. James Sargent *vs.* The Yale Lock M'f'g Co. Two other cases. Consent to substitute solicitors. U. S. circuit court. Filed Jan. 17, 1878. John I. Davenport, clerk.

79 At a stated term of the circuit court of the United States of America for the southern district of New York, in the second circuit, held at the United Sates court-rooms, in the city of New York, on Tuesday, the twenty-second day of October, in the year of our Lord one thousand eight hundred and seventy-eight.

Present: The Honorable Samuel Blatchford, circuit judge.

JAMES SARGENT *vs.* THE YALE LOCK MANUFACTURING COMPANY.

SAME *vs.* SAME.

HALBERT S. GREENLEAF *vs.* THE SAME.

The above causes coming on for argument together, on exceptions to the master's report—

Mr. Frederic H. Betts is heard in behalf of the defendants.

(Further argument adjourned to the 23d inst.)

80 At a stated term of the circuit court of the United States of America for the southern district of New York, in the second circuit, held at the United States court-rooms, in the city of New York, on Wednesday, the twenty-third day of October, in the year of our Lord one thousand eight hundred and seventy-eight.

Present: The Honorable Samuel Blatchford, circuit judge.

JAMES SARGENT *vs.* THE YALE LOCK MANUFACTURING COMPANY.

SAME *vs.* SAME.

HALBERT S. GREENLEAF *vs.* SAME.

The argument of the exceptions to the master's reports in the above causes being resumed—

Mr. F. H. Betts continues his argument in behalf of the defendants.

Mr. Edmund Wetmore is heard in behalf of the complainants.

(Further argument adjourned to the 24th inst.)

81 At a stated term of the circuit court of the United States of America for the southern district of New York, in the second circuit, held at the United States court-rooms, in the city of New York, on Thursday, the twenty-fourth day of October, in the year of our Lord one thousand eight hundred and seventy-eight.

Present: The Honorable Samuel Blatchford, circuit judge.

JAMES SARGENT *vs.* THE YALE LOCK MANUFACTURING COMPANY.

SAME *vs.* SAME.

HALBERT S. GREENLEAF *vs.* SAME.

The argument in the above causes being resumed—

Mr. Wetmore continues his argument in behalf of the complainants.

Mr. George Ticknor Curtis is heard in behalf of the complainants.

Mr. George F. Betts is heard in behalf of the defendants.

Curia advisari vult.

82 Circuit Court of the United States for the Southern District of New York.

HALBERT S. GREENLEAF

vs.

THE YALE LOCK MANUFACTURING COMPANY.

BLATCHFORD, J.:

The accounting in this case relates to the infringement of the first claim of the plaintiff's patent, in making and selling safe locks, and of the fourth claim, in making and selling bank locks. The master says: "The complainant has successfully prosecuted infringers of these claims, and, in one case, for infringement of the fourth claim in the manufacture and sale of bank locks, a settlement was arrived at, and the infringer, one George Damon, of Boston, was licensed at $20 per lock. Several suits against
83 infringers of the first or 'key-changing tumbler' claim of this patent were also successfully prosecuted by complainant, and settlement obtained. One of such infringers, Timothy J. Sullivan, of Albany, after settlement for past infringement, was granted a license under this patent, and the patent granted to Lyman F. Munger, known as the Munger patent wheel, owned or owned in part by complainant, at a license fee of $500 per year for the privi-

lege of making 75 locks per year, that is, $6.66 per lock, and if he manufactured more than 75 locks in a year he was to pay $10 per lock. Of the licenses granted by complainant under this and the Munger patent two thirds of the royalty received was allowed to the Muger patent, and one-third to the Rosner patent, on which
84 this suit is brought, notwithstanding the fact that the alleged settlements in which the said finding is based were manifestly inapplicable to the case of the defendant or any rule of damage. It further excepts to the report for that the rule and amount of damage derived from following the exceptional settlements upon which it is based give to the plaintiff more than his actual damage, and for that the prices and amounts imposed upon the defendant by following said exceptional settlements are plainly extravagant and ruinous, and more than the actual damage of the plaintiff, and impossible to have been realized or received by the plaintiff as license fees from such a business as the defendant's; and for that the master erred in reporting that the sum of $10,227.54, or any other sum, should be recovered by the plaintiff from the defendant; and for that the master
85 erred in not reporting that no profits and no damages were shown."

I think that the defendant's exceptions must be allowed and the report be set aside, and the case be referred back to the master for further consideration and report, either with or without additional evidence, as he may determine. The evidence does not show that any established license fee was proved in respect to either one of the devices. The report is not on the basis of profits. It is on the basis of damages. The amount awarded seems, to me, to exceed the actual damage, on any fair view of the case. The views set forth in Black *v.* Munson (14 Blatchf. C. C. R., 265), show that on the evidence in tbis case no fixed and established license fee can be held to have been proved by the plaintiff or any fee which can be prop-
86 erly taken as a measure of the actual damage sustained by the plaintiff.

EDMUND WETMORE AND
GEORGE T. CURTIS,
For the Plaintiff.
FREDERIC H. BETTS,
For the Defendant.

(Endorsed:) Circuit court of the United States for the southern district of New York. Halbert S. Greenleaf *vs.* The Yale Lock M'f'g Co. Decision. Oct. 29th, 1879. U. S. circuit court. Filed Oct. 29, 1879. John I. Davenport, clerk.

87 At a stated term of the circuit court of the United States for the second circuit and southern district of New York, held at the United States court-house, in said city, on the seventh day of January, A. D. 1880.

Present: The Honorable Samuel Blatchford, judge.

HALBERT S. GREENLEAF, Complainant,
ag'st
THE YALE LOCK MANUFACTURING COMPANY, Defendant.

This cause having come on to be further heard upon the defendant's exceptions to the master's report, which report was made and dated the 31st day of August, A. D. 1877, and at the hearing Mr. George F. Betts and Mr. Frederic H. Betts, defendant's counsel, in support of said exceptions, and Mr. Curtis and Mr. Wetmore, complainant's counsel, in opposition thereto; and consideration having been had, and the opinion of this court upon the said exceptions having been filed the 29th day of October, 1879, it is hereby
88 ordered, adjudged, and decreed that the said exceptions by the defendant to the said master's report be, and they hereby are, allowed, and that the said report be, and the same hereby is, set aside, and that the case be, and the same hereby is, referred back to Edward G. Thompson, Esq., the said master, for further consideration and report, either with or without additional evidence, as he may determine.

And the defendant, claiming that it is entitled to costs before the master, and on the hearing on his report, it is by consent of parties further ordered that the question of costs before the master and on the hearing be reserved until the entry of final decree on his report.

(S'g'd) SAM'L BLATCHFORD.

Form approved.
FREDERIC H. BETTS.

(Endorsed:) U. S. circuit court, southern dist. of New York. Halbert S. Greenlealf ag'st The Yale Lock Manufacturing Com-
89 pany. Order allowing defendant's exceptions to master's report and referring case back. Please take notice that within order will be presented to the court for signature and entry at the present term thereof, at the U. S. court-room, in the city of New York, the 5th day of November inst., at 11 o'clock in the forenoon, or as soon thereafter as counsel can be heard. Nov. 1, 1879. Yours, &c., James H. Fay, complainant's solicitor. U. S. circuit court. Filed Jan. 7, 1880. John I. Davenport, clerk.

90 United States Circuit Court, Southern District of New York.
In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY.

The defendant's exceptions to the master's report heretofore filed herein having been allowed, the report set aside and the case referred back to the master for further consideration and report, either with or without additional evidence, as he may determine—

The master respectfully reports as follows:

That he has been attended by counsel for the respective parties,

and briefs have been submitted to him by Mr. Wetmore and Mr. Frederic H. Betts.

It was not deemed necessary to take further testimony, except to have a new statement, hereto annexed, prepared by the complainant, showing the number of No. 3 and No. 5 locks made during the period covered by this cause, as differing from the period in suit No. 1, between James Sargent and this same defendant, the master having announced to counsel that he shall now follow his re-
91 port in that case, the locks accounted for in which contained, in addition to the devices therein claimed in that suit, the devices claimed in this suit. These were considered in his report in said case No. 1 in the following language: "* * * It is claimed by complainant, and nowhere effectually disputed by defendant, that in computing the profits on these locks one-third belong to and was charged by him to the Rosner patent," which is the patent on which this suit is brought.

The infringement in this suit commenced July 25th, 1871, and ceased on September 18th, 1874.

The reduction of prices caused by defendant's continued infringement and underselling its infringing locks to complainant's customers began December 27th, 1872.

See complainant's testimony, fol. 120.

The statement submitted by the complainant (and agreed to by counsel as being correct) of the number of locks upon which complainant suffered his damages by the reduction in prices realized for them caused by the defendant, shows that the complainant made and sold 924 of No. 3 locks between January 1, 1873, and September 24, 1874, and 10,026 of No. 5 locks from January 1, 1873, to September 24, 1874.

Following in this amended report my report in case No. 1, a copy of which is hereto annexed and made part hereof, I find that the complainant is entitled to recover as damages—

On 924 No. 3 locks, 50c. per lock, to wit	$462 00
On 10,026 " 5 " 25c. " "	2,506 50
	$2,968 50

Respectfully submitted.

E. G. THOMPSON,
Master P. H. V.

Dated New York, June 4, 1881.

92 *Master's Report.*

United States Circuit Court, Southern District of New York.
In Equity.

JAMES SARGENT
vs.
THE YALE LOCK MANUFACTURING COMPANY. } Suit No. 1.

Under the decree herein entered at the April term of this court, in the year 1875, the undersigned, Edward G. Thompson, was named

as master herein *pro hac vice*, to ascertain and take and state and report to the court an account of the damages sustained by the complainant, and the gains, profits, and advantages which the defendant has received or which have arisen or accrued to it since the 2d day of January, 1872, from infringing the exclusive rights of the complainant by the manufacture, use, or sale of the improvements set forth and described in reissued letters patent No. 4696, dated January 2d, 1872, granted to James Sargent, the complainant herein.

This patent is for what is known as "turning bolt" patent, as distinguished from "sliding bolt," previously used in safe locks and in locks in vault doors.

93 The language of the claim decreed to be infringed is as follows:

"I. I claim, in a combination lock for safe or vault door, a bolt 1, which turns on a pivot or bearing, when said bolt 1 is used in a lock having no ordinary sliding lock bolt, and in connection with the separate bolt work of the door, and so arranged as to receive the pressure of the said bolt work without transmitting it to the wheels or other equivalent works of the lock."

The accounting has occupied a considerable period of time, owing to causes beyond the control of the master.

During a large portion of this time the defendant company's president acted as its counsel. A great mass of testimony was taken, some of which has been, by consent, stricken out from the record as being simply cumulative and of no special benefit to either party.

Profits.

There is no basis, from the proofs adduced before the master in this case, to find what profits have been made by the defendant by the use of the "turning bolt" (the infringing device) in the locks made and sold by it.

The principal testimony on either side consists mainly of extended and elaborated opinions of the respective parties, that of the defendant being partly opinion and partly argument.

There is nothing in the mass of testimony to prove what was the value of the "turning bolt," in itself, to the lock, or its value over other devices before used.

The complainant, Sargent, says he estimated it at two-thirds of the whole profit of the lock, but he gives no basis for such computation, and there is no testimony to support his theory as against the testimony produced by the defendant.

94 The defendant presents various schedules showing the cost of producing locks containing the infringing device and the amounts realized from their sale. The theory upon which these various schedules are made up is similar to that submitted in Mason *vs.* Graham, 7 Off. Gazette, 833, of which the court said: "To this we cannot assent."

Therefore, on the testimony before me, I cannot find what profits, if any, are due from the defendant for the use of the "turning bolt."

Damages.

It is in evidence (see Keating letter, page 163, defendant's record) that the competition and rivalry in trade between the parties hereto existed as early as 1871, if not prior to that date. Such competition resulted in a lowering of prices on locks manufactured by complainant before the reissue of complainant's patent No. 4696 (to wit, January 2, 1872), on which this suit is founded. The reductions of price occurring prior to the date of the reissue are not before the master and cannot be considered.

Subsequent to the reissue and in 1873, in consequence of the defendant company offering and selling to the complainant's principal customers and to the trade generally locks containing the infringing device at a less price than complainant was obtaining, a further reduction of prices was enforced on the part of complainant. This reduction was, in round numbers, $1 on No. 5 locks and $2 on No. 3

It is in evidence that during the period covered by the accounting the complainant could have manufactured, in addition to the locks he did manufacture, and without materially increasing his manufacturing facilities, all the locks manufactured and sold by the defendant company; that complainant would have made sales to many of the persons who were induced to purchase from the
95 defendant, at his own established prices, had not defendant offered its locks at lower prices. In this the complainant has suffered damage.

The locks so sold, however, contained, in addition to the "turning bolt" (which is the infringing device sought to be recovered upon in this suit), another patented device, known as the Rosner patent, for which infringement another claim is made against defendant, in what is called suit No. 3.

As to the proportion of the reduction of prices above set forth, which should be allowed to the device claimed under the Rosner patent, it is claimed by complainant and nowhere effectually disputed by defendant that in computing the profits on these locks one-third belonged to and was charged by him to the Rosner patent. Admitting this proportion, and allowing, in addition thereto, for any superior external attractions of the defendant's locks, and for the number of combinations which they had over those of complainant, and for the shape of the case of the lock, and for the commercial success of the defendant in effecting sales where the complainant would have failed, I am of the opinion that the complainant is entitled to recover from the defendant as damages one-half of the amount of reduction in prices caused by the defendant since the reissue, January 2d, 1872.

That is, on 1,009 No. 3 locks, $1 per lock	$1,009 00
And on 13,554 No. 5 locks, at 50c. per lock	6,762 00
Total	$7,771 00

All of which is respectfuily submitted.

E. G. THOMPSON,
Master P. H. V.

96 Bought of Sargent & Greenleaf, patentees & manufacturers of the magnetic, automatic, and chronometer bank locks, combination safe locks, padlocks; drawer, desk, trunk, house, chest, store-door, & other locks; night latches, &c., all with small flat keys. Terms, net cash. Corner Court & Stone Sts. Delivered to R. R. or express.

Statement of Nos. 3 and 5 Safe Locks sold by Sargent & Greenleaf, of Rochester, N. Y., between January 1st, 1873, and May 1st, 1875.

1873.		No. 3.	No. 5.
			72
Jan.	2	12	108
"	4	12	120
"	7		24
"	8		65
"	10		
"	11	12	
"	13	24	6
"	15		24
"	16		18
"	17		72
"	20		36
"	21	12	42
"	22		13
"	23		12
"	24		84
"	27		1
"	28		48
"	29		48
"	31		48
Feb.	1		5
"	3		6
"	4		25
	Carried over	72	877

97

1873.		No. 3.	No. 5.
Feb.	4—Am't brought over	72	877
"	8		60
"	13		49
"	14	1	1
"	15	24	
"	17		72
"	18		37
"	19		52
"	20	24	
"	21		2
"	22		24
"	25		48
	27	1	2

March	3	2	1
"	5		48
"	6		60
"	7		65
"	8		48
"	11		36
"	12		24
"	14		96
"	15		36
	18		36
"	19	24	12
"	20		37
"	21	1	36
"	22		12
	24		48
"	25		36
	Carried over	149	1,885

98

1873.		No. 3.	No. 5.
March	25—Am't brought over	149	1,885
"	26		39
"	27		36
"	28		6
"	29	3	6
"	31		12
April	1	26	10
"	2		3
	3		84
	5		60
	7	12	12
	8	12	1
	10	2	72
	11		12
	12		48
	14		12
	15	3	18
	16		37
	18		48
	19		58
	21	24	
	22	12	
	23		25
	25		12
	26		6
	28	36	
	29	1	38
	30	27	6
May	2		72
	Carried over	307	2,618

99

1873.		No. 3.	No. 5.
May	2—Am't brought over	307	2,618
"	5		24
"	6		1
"	7		42
"	8		48
"	10		70
"	13		61
"	14	12	24
"	15		60
"	16		34
"	17	2	34
"	19	48	
"	20		48
"	23		1
"	26	12	
"	27	24	
"	28		18
"	29		64
"	31	2	66
June	2		246
"	3	6	12
"	5		36
"	6	48	
"	7		30
"	9		36
"	10		25
"	11	12	42
"	12	1	
"	14		100
	Carried over	474	3,740

100

1873.		No. 3.	No. 5.
June	14—Am't brought over	474	3,740
"	16		36
"	19		1
"	20		24
"	21		12
"	26		48
July	1		240
"	3		48
"	5		24
"	10		116
"	12		6
"	14	6	18
"	16	12	1
"	24		24
"	25		12

"	29		6
"	30		7
Aug.	1		240
"	2	12	101
"	4		6
"	5	4	12
"	7		12
"	9	12	30
"	13		72
"	14	3	
"	21	12	
"	25	12	12
"	26	12	24
"	28	6	12
"	30		6
	Carried over	565	4,890

101

1873.		No. 3.	No. 5.
Aug.	30—Am't brought over	565	4,890
Sept.	1		240
"	8		24
"	9	5	4
"	10		12
"	11	12	6
"	15		6
"	17	25	37
"	19		13
"	20	4	30
"	22		10
"	26		7
"	27		96
"	30		2
Oct.	1	12	300
"	6		1
"	9		12
"	11		72
"	14		36
"	18	1	
"	20		8
"	23		24
"	28	1	2
"	30	1	12
"	31		1
Nov.	1		301
"	3	1	
"	6	1	
"	7	6	10
	Carried over	634	6,156

102

1873.		No. 3.	No. 5.
Nov.	7—Am't brought over	634	6,156
"	10		96
"	11	2	6
"	12		12
"	14		1
"	17	1	
"	21	12	
"	22		2
"	24	1	
Dec.	1		120
"	3		
"	4	3	
"	5		
"	6		
"	11	2	
"	12	1	
"	13	12	
"	16		7
"	19		6
"	22		1
1874.			
Jan.	7	8	120
"	8		24
"	9		48
"	12		1
"	13	1	1
"	14		
"	17	1	
"	19	6	6
"	21		1
"	22		24
	Carried over	684	6,666

103

1874.		No. 3.	No. 6.
Jan.	22—Am't brought over	684	6,666
"	23		12
"	24		12
"	27		24
Feb.	2		120
"	7		24
"	11		7
"	12		
"	13		
"	14		
"	19		
"	20	1	

"	21	13		
"	23			
"	24	12		
"	25			
"	27			
"	28			
March	2			
"	4			
"	5			
"	7			
"	9			
"	10			
"	12			
"	13			
"	14			
"	17	12		
"	18			
"	21	12		
	Carried over	734		7,357

104

1874.		No. 3.	No. 5.
March	21—Am't brought over	734	7,357
"	25	1	
"	27	2	24
"	31		12
April	1		216
"	2		48
"	3	3	8
"	4		2
"	7	2	12
"	8		3
"	11	36	96
"	13		12
"	14	2	
"	15		3
"	16		12
"	17		31
"	18	12	4
"	20		10
"	22		12
"	29	12	24
May	1		305
"	2	1	60
"	4		12
"	11		12
"	12	14	14
"	13	36	
"	15	1	
"	21		28

"	22			12
"	23	4		4
	Carried over	860		8,333

105

1874.		No. 3.	No. 5.
May	23—Am't brought over	860	8333
"	26		2
"	29		1
June	1		313
"	2		6
"	5	24	13
"	10	1	
"	11		66
"	12	19	
"	13		12
"	16		12
"	18		1
"	19		6
"	20		36
"	29		18
"	30	3	4
July	1		108
"	3		96
"	7		2
"	8		3
"	11		96
"	15		18
"	17		24
"	20		12
"	27		1
"	30		1
Aug.	1	1	301
"	5		6
"	6		6
"	8		24
	Carried over	908	9,521

106

1874.		No. 3.	No. 5.
Aug.	8—Am't brought over	908	9521
"	10		28
"	14		96
"	15		13
"	17	2	26
"	19		6
"	20	2	60
"	24		12
"	25		6
"	26	12	24

"	27		2
"	29	1	18
"	31		12
Sept.	2		300
"	4		24
"	7		24
"	9		36
"	14	2	
"	15		66
"	16		60
"	18	24	24
"	22		12
"	23	12	
"	29		12
Oct.	1		192
"	2		6
"	9		120
"	12	1	24
"	13	1	1
"	14	1	
	Carried over	966	10,725

107

1874.		No. 3.	No. 5.
Oct.	14	966	10,725
"	16		24
"	17		36
"	19		12
"	20		3
"	21		1
"	24		120
"	26		12
"	27	3	2
"	28		24
"	29	1	18
"	31		111
Nov.	4	2	
"	6	1	72
"	10		36
"	11	1	12
"	12		49
"	13	1	
"	14		1
"	21		3
"	25	3	18
"	28		4
"	30		2
Dec.	1		300
"	2		12
"	3		55

"	12		1	19
"	16			18
"	17		1	38
"	19			48
	Carried over		980	11,775

108

1874.		No. 3.	No. 5.
Dec.	19—Am't brought over	980	11,775
"	24		12
"	26		6
"	29		12
1875.			
Jan.	1		300
"	7		18
"	8		1
"	13		36
"	14		24
"	16		28
"	22	3	3
"	26		12
"	27		24
"	28		24
"	30		18
Feb.	1		301
"	4		12
"	6		1
"	11	3	
"	13		1
"	15		12
"	16		24
"	24		50
"	27		60
March	1		300
"	4		1
"	5		12
"	13		24
"	17		12
"	22		1
	Carried over	986	13,104

109

1875.		No. 3.	No. 5.
March	22—Am't brought over	986	13,104
"	24		13
"	30		48
"	31		24
April	1		303
"	6	24	50
"	10		36

"	13			60
"	14			18
"	15			2
"	17			12
"	19		1	4
"	23			8
"	28			36
	Total	(No. 3) 1,011		(No. 5) 13,718

STATE OF NEW YORK, }
County of Monroe, } *ss:*

John M. Thayer, of the city of Rochester, in said county, being duly sworn, deposes and says: That he is the bookkeeper of the co-partnership firm of Sargent & Greenleaf and has charge of the said books; that the preceding is a true statement of the number of locks designated therein within the period above named, sold by Sargent & Greenleaf, as appears from said books, and which statement deponent verily believes to be true.

(S'g'd) JOHN M. THAYER.

Subscribed and sworn to, this 13th day of April, 1881, before me.

(S'g'd) WM. J. McPHERSON,
Notary Public.

110 (Endorsed:) U. S. C. C., S. D. N. Y. In equity. Suit No. 3. Halbert S. Greenleaf *vs.* The Yale Lock Manufacturing Co. Master's second report. U. S. circuit court. Filed June 8, 1881. Joseph M. Deuel, clerk.

111 U. S. Circuit Court, Southern District of New York.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING CO. } Suit No. 3.

Exceptions on the part of the complainant to the master's report filed herein June 8, 1881.

112 First. The complainant excepts to the report of the master in that he did not find that on the evidence the complainant was entitled to recover as his measure of damages the sum of $6.66 per lock for bank locks, and $2.22 per lock on fire-proof safe locks, the same being *prima facie* the complainants damages, and the profit to the defendant for the use of said invention based upon the licenses granted to other users.

Second. The complainant excepts to the said report in that, if the full measure of said license fee was not adopted as the measure of damages on the evidence, considering the amount of said license fees with the other facts proved, the master did not find that at least a sum equal to $3.00 per lock or some sum represented, the total profit attributable to the presence in the infringing locks of the patented invention.

(Signed) JAMES H. FAY,
Solicitor for Complainant.

(Endorsed:) U. S. circuit court, southern dist. New York. Halbert S. Greenleaf *ag'st* The Yale Lock Manufacturing Company. Exceptions to master's report filed June 8th, 1881, on behalf of complainant. James H. Fay, sol. for compl't. Edmund Wetmore, of counsel. (File mark.) U. S. circuit court. Filed Nov. 3, 1881. Joseph M. Deuel, clerk.

United States Circuit Court, Southern District of New York. In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY. } Suit No. 3.

Exceptions by and on the part of the Yale Lock Manufact-
113 uring Company, defendant in above action, to the second report of Edward G. Thompson, master, to whom this cause was referred by an order entered at the April term of this court in the year 1875, in addition to the exceptions filed to the first report of said master.

First. The said defendant excepts to the finding and report of said master (embodied in his second report and in his report in suit of Sargeant *vs.* The Yale Lock Manufacturing Company, No. 1, a copy of which is annexed to said second report), for that he finds and reports that, subsequent to the reissue of complainant's patent, in consequence of competition on the part of the defendant, any reduction of price was enforced on the part of the complainant, or that any such reduction was at the rate of 50 cents on No. 3 locks, or 25 cents on No. 5 locks, or at any other rate.

Whereas the said master should have reported that no such reduction was enforced, and that there was no sufficient or legal proof of the amount of any reduction, or any sufficient or legal proof of any reduction caused by defendant's infringement or alleged infringement, and that there was no method of computing such reduction, even if it actually existed.

Second. The said defendant excepts to said report of said master, for the reason that there is no sufficient or legal evidence whatsoever on which to base any report or finding of damages, and for the reason that the only evidence offered or taken before said master, tending to the result reached in said report, is wholly in the shape of estimate, assertion, conjecture, and opinion, and affords no proper sound or safe or legal basis for any report of actual damages by any forced reduction of prices.

Third. The defendant further excepts to the finding and
114 report of said master, for that he finds and reports in the report in suit No. 1, annexed to and adopted in his report herein; that during the period covered by the accounting, the complainant could have manufactured, in addition to the locks he did manufacture, and without materially increasing his manufacturing facilities, all the locks manufactured and sold by the defendant company.

Whereas the said master should have reported that no such addi-

tional manufacture was possible by complainant, or that it was impossible without a very great extension of his facilities.

Fourth. The defendant further excepts to so much of the report of said master as states in the said report annexed and adopted under the head of "damages"; that the complainant would have made sales to many of the persons who were induced to purchase from the defendant at his own established prices had not defendant offered its locks at lower prices.

Whereas the said master should have found and reported that no such sales would have been made, or that even if made they would not have been made at complainant's own established prices.

Fifth. The defendant further excepts to so much of the report of said master as finds and reports that the complainant herein suffered any damage at all by reason of the competition of the defendant.

Whereas the said master should have found and reported no damage whatsoever from any such cause.

Sixth. The defendant further excepts to said report, for that said master finds and reports that the complainant is entitled to recover from the defendant, as damages, one-third of the amount of reduction in prices caused by the defendant since the reissue, January 2d, 1872.

115 Whereas said master should have reported no reduction in prices, or no proof of such, caused by any infringemnt or alleged infringement by defendant since the aforesaid reissue, and no legal or sufficient proof on which to base any apportionment thereof; hence no damages to complainant, and consequently no method of calculating them.

Seventh. The defendant further excepts to said report for that said master erred in making the apportionment of alleged reduction in complainant's prices; charging one-half thereof to the alleged infringement of the so-called turning bolt patent, and one-third thereof to the alleged infringement of the Rosner patent.

Whereas no basis existed in the proof or in law for such or for any apportionment, or for any award of damages.

Eighth. The defendant further excepts to said report of said master in so far as the same states that any "statement submitted by the complainant of the number of locks upon which the complainant suffered his damage by the reduction in prices," was agreed to as being correct.

Whereas in fact defendant and its counsel merely did not dispute the correctness of the number of locks specified in said statement, but did not agree that the complainant suffered any damages by reduction of prices realized for the same, or any damages whatsoever.

Ninth. The defendant further excepts to said report, for that the said master erred in assessing damages which on their face are not the damages suffered by the complainant, but those suffered by the firm of Sargeant & Greenleaf.

Whereas said master should have reported that the damage, if any, found to have been suffered by said firm, is not the damage of

complainant, who is only one member of said firm, but that complainant's damage is merely a portion thereof.

116 Tenth. The defendant also excepts to said report, for that said master erred in finding and reporting as damages the sum therein mentioned, or any damages whatsoever, and in not reporting that there was no proof of any actual damage suffered by the complainant from the alleged infringement.

BETTS, ATTERBURY & BETTS,
Defendant's Solicitors.
FREDERIC H. BETTS, *Counsel.*

(Endorsed:) U. S. circuit court, S. D. N. Y. Halbert S. Greenleaf *vs.* The Yale Lock M.f'g Co. Suit No. 3. Exceptions. Betts, Atterbury & Betts, sol'rs for def't, 120 Broadway, New York. U. S. circuit court. Filed June 22, 1881. Joseph M. Deuel, clerk.

117 At a stated term of the circuit court of the United States of America for the southern district of New York, in the second circuit, held at the United States court-rooms, in the city of New York, on Thursday, the seventeenth day of November, in the year of our Lord one thousand eight hundred and eighty-one.

Present: the Honorable Samuel Blatchford, circuit judge.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY.

The argument of exceptions taken to the master's 2nd report, filed in the above-entitled cause, coming on this day to be heard—

Mr. Frederic H. Betts is heard in behalf the defendant.

Mr. Edmund Whetmore is heard in behalf of the *defendant.*

C. A. V.

118 Circuit Court of the United States for the Southern District of New York.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY.

BLATCHFORD, J.:

The exceptions of both parties to the master's report filed June 8th, 1881, are overruled.

(Endorsed:) Circuit court of the United States for the southern district of New York. Halbert S. Greenleaf *vs.* The Yale Lock Manufacturing Company. Decision. Feb'y 20th, 1882. U. S. Circuit court. Filed Feb. 20, 1882. Joseph M. Deuel, clerk.

119 At a stated term of the circuit court of the United States held in and for the southern district of New York, in the court-room thereof, in the city of New York, on the 20th day of February, 1882—

Present: Hon. Samuel Blatchford, circuit judge.

ALBERT S. GREENLEAF *vs.* THE YALE LOCK MANUFACTURING CO.

On reading and filing the second report of the master appointed herein and the exceptions thereto, filed by both parties, after hearing Edmund Wetmore, Esq., in behalf of the exceptions filed by the complainant, and Frederic H. Betts, Esq., opposed, and Frederic H. Betts, Esq., in behalf of the exceptions filed by the defendants,
120 and Edmund Wetmore, Esq., opposed, it is ordered that the exceptions of both parties to said report be, and the same hereby are, overruled; that said second report of the master be, and the same hereby is, in all things confirmed, and that the complainant have judgment for the sum of two thousand nine hundred and sixty-eight dollars and fifty cents damages, and interest thereon from the 15th day of December, 1879, together with one hundred and eighty-four dollars costs.

(S'g'd) SAM'L BLATCHFORD.

Form approved.

WETMORE & JENNER,
Complainant's Solicitors
BETTS, ATTERBURY & BETTS.
Defendant's Solicitors.

(Endorsed:) U. S. circuit court, southern district of New
121 York. Halbert S. Greenleaf *vs.* The Yale Lock Manufacturing Company. Final decree confirming master's report. Betts, Atterbury & Betts, solicitors for def't, 120 Broadway New York. (File mark.) U. S. circuit court. Filed Mar. 25, 1882. Joseph M. Deuel, clerk.

121*a* U. S. Circuit Court, Southern District of New York.

JAMES SARGENT
vs.
THE YALE LOCK MANUFACTURING COMPANY.

HALBERT S. GREENLEAF
vs.
THE SAME.

} Suits Nos. 1 & 2.

It is hereby stipulated between the solicitors for the respective parties in the above-entitled causes that the master's reports and exceptions herein, endorsed as having been filed in the clerk's office of this court on the 29th day of October, 1879, be, and the same are hereby, considered as having been duly filed in said office on the 24th of September, 1877, *nunc pro tunc.*

New York, Oct. 12, 1882.

BETTS, ATTERBURY & BETTS,
Sol'rs for Def'ts.

JAMES H. FAY,
121*b* *Complainant's Solicitor,*
Per E. W.

(Endorsed:) U. S. circuit court, southern district of N. Y. Sargent *vs.* The Yale Lock M'c'f'g Co. Suits Nos. 1 and 2. Greenleaf *vs.* The Same. Stipulation as to filing master's reports and exceptions *nunc pro tunc* as of Sept. 24. 1877. U. S. circuit court. Filed Oct. 12, 1882. Joseph M. Deuel, clerk.

121*c* U. S. Circuit Court, Southern District of New York.

JAMES SARGENT
vs.
THE YALE LOCK M'F'G CO. } Suit No. 1.

JAMES SARGENT
vs.
THE YALE LOCK M'F'G CO. } Suit No. 2.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK M'F'G CO. } Suit No. 3.

It is hereby stipulated that all the testimony taken before the master in the accounting in the above-entitled suits, copied and certified by the clerk of this court in suit No. 1 above entitled, be considered as the record of the testimony before the master in suits Nos. 2 and 3 above entitled as fully as if separately certified and printed in each suit.

121*d* It is also further stipulated that the exhibits other than documentary in all the above suits be retained by the clerk of this court until the hearing of the appeals herein before the Supreme Court or by the respective counsel, as to them shall seem fit. And it is also further stipulated that the Defendant's Exhibits Towne and the file wrapper and contents of the applications of Sargent for original and reissued patents, noted as put in evidence at p. 50 of defendant's proof, as paged in the circuit copy of record, but of which the originals appear to be not now on file, may be considered to be the Patent Office copies thereof; and it is stipulated that such copies may be regarded as original exhibits, and that they be part of the record. And it is further stipulated that such copies
121 *e* of exhibits may be retained by counsel for completion, and forwarded to the clerk of the Supreme Court after the 13th of October, 1882, and that drawings of complainant's patents in suit may be in like manner filed *nunc pro tunc* or retained and forwarded to the clerk of the Supreme Court, as above.

BETTS, ATTERBURY & BETTS,
Sol'rs for Def'ts.
JAMES H. FAY,
Solicitor for Compl'ts.

(Endorsed:) U. S. circuit court, southern dist. of N. Y. Sargent *vs.* Yale Lock M'f'g Co. Suit No. 1. Sargent *vs.* Yale Lock M'f'g Co. Suit No. 2. Greenleaf *vs.* Yale Lock M'f'g Co. Suit No. 3. Stipulation. Filed Oct. 12, 1882.

122 Circuit Court of the United States, Southern District of New York. In Equity.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY.

To the honorable the Supreme Court of the United States:

The appeal of The Yale Lock Manufacturing Company, the above-named defendant and appellant, respectively showeth that upon the 15th day of July, 1872, the above-named complainant filed his bill in the circuit court of the United States for the southern district of New York against the above-named defendant and appellant, in a suit in equity, to enjoin and restrain the said The Yale Lock Manufacturing Company from infringing certain reissued letters patent granted to George Rosner, as assignor of Halbert S.
123 Greenleaf, No. 4488, on July 25th, 1871, of which letters patent said Halbert S. Greenleaf was alleged to be the owner, and praying for an injunction restraining defendant, and an accounting and payment by the said defendant of the profits by it realized and of the damages suffered by the said Halbert S. Greenleaf by reason of said alleged infringement of said letters patent, and that a subpœna *ad respondendum* issue out of and under the seal of said circuit court.

That said defendant filed its answer to said bill of complaint and denied any infringement, alleging prior use and sale, abandonment, acquiescence, and that the complainant's assignor was not the original and first inventor, and that the reissued letters patent were invalid, and were not for the same invention claimed in the
124 original application for letters patent, and that the surrender of said original letters patent was fraudulent.

That thereupon the complainants herein filed a replication thereto, and, that issue thus being joined, such proceedings were had that an interlocutory decree was entered ordering an injunction and an accounting and assessment; that such accounting and assessment was had and a report made and filed by the master, which, upon exceptions filed by the defendant, was overruled, and the matter referred again to said master for further proceedings; that thereupon said master made and filed a second report, to which exceptions were filed by the defendant and, after hearing, said exceptions were overruled and said report confirmed.

That subsequently, and on the 25th day of March, 1882, a final decree was made and entered in the cause, wherein
125 it was adjudged that the complainant should recover of the defendant the sum of $3,559.92 dollars, and be awarded other relief.

Wherefore this appellant appeals from the whole of said decree of the said circuit court and from the said interlocutory decree, and every part thereof, and from all orders overruling the defendant's exceptions, and every part thereof, upon which said decree was founded, and respectfully prays that the decree of the said circuit

court and the bill, answer, pleadings, depositions, evidence, orders, and proceedings in the said cause may be sent to the Supreme Court of the United States without delay, and that the said Supreme Court will proceed to hear the said cause anew, and that the said decree of
the circuit court, and every part thereof, may be reversed
126 and a decree made dismissing said bill, or such other decree made as to the said Supreme Court shall seem just.

Dated N. Y., May 8th, 1882.

FREDERIC H. BETTS,
Solicitor & of Counsel.

Allowed.

ADDISON BROWN,
District Judge for the Southern District of New York, in the Second Circuit.

(Endorsed:) U. S. circuit court, south. dist. of N. Y. Halbert S. Greenleaf *vs.* The Yale Lock Manufacturing Company. Petition of appeal. Betts, Atterbury & Betts, def't's & app'l't's sol'rs, 120 B'way, N. Y. Due service of a copy of the within is hereby ad-
127 mitted. N. Y., May 11th, 1882. Edmund Wetmore, of counsel. U. S. circuit court. Filed May 15, 1882. Joseph M. Deuel, clerk.

128 *Bond for Damages and Costs.*

Circuit Court of the United States of America for the Southern District of New York, in the Second Circuit.

HALBERT S. GREENLEAF
vs.
THE YALE LOCK MANUFACTURING COMPANY.

Know all men by these presents that we, The Yale Lock Manufacturing Company, as principal, and Henry R. Towne and Schuyler Merritt, as sureties, all of Stamford, Connecticut, are held and firmly bound unto the above-named Halbert S. Greenleaf in the sum of seven thousand one hundred and nineteen $\frac{84}{100}$ dollars, to be paid to the said Halbert S. Greenleaf, his executors or administrators; for the payment of which, well and truly to be made, we bind ourselves, and each of us, our and each of our heirs, executors, and administrators, jointly and severally, firmly by these presents.

Sealed with our seals, and dated the 17th day of April, in the year of our Lord one thousand eight hundred and eighty-two.

Whereas the above-named The Yale Lock Manufacturing Co. has prosecuted an appeal to the Supreme Court of the United States to reverse the judgment and decree rendered in the above-entitled suit by the judge of the circuit court of the United States for the southern district of New York on March 25th, 1882:

Now, therefore, the condition of this obligation is such that if the above-named The Yale Lock Manufacturing Co. shall prosecute their appeal to effect, and answer all damages and costs if they, The Yale Lock Manufacturing Co., fail to make their plea good, then

this obligation shall be void; otherwise the same shall be and remain in full force and virtue.

[Seal of the Y. L. M. Co.]

THE YALE LOCK M'F'G CO.,
By HENRY R. TOWNE, *Pres't.*
HENRY R. TOWNE. [L. S.]
SCHUYLER MERRITT. [L. S.]

Sealed and delivered and taken and acknowledged, this 17 day of April, 1882, before me—
[Notarial Seal.]

E. W. RIKER,
Notary Public.

129 UNITED STATES OF AMERICA, *Southern District of New York,* } *ss:*

STAMFORD, FAIRFIED CO., *Ap'l* 17, '82.

Henry R. Towne and Schuyler Merritt, being duly sworn, do depose and say, each for himself: That he is worth the sum of seven thousand one hundred & nineteen $\frac{84}{100}$ dollars over and above all his just debts and liabilities.

HENRY R. TOWNE.
SCHUYLER MERRITT.

Sworn to this 17th day of Ap'l, A. D. 1882, before me—
[Notarial Seal.]

E. W. RIKER,
Notary Public.

Approved as to form & sufficiency.
ADDISON BROWN.

[Endorsed:] U. S. circuit court. Halbert S. Greenleaf *vs.* The Yale Lock Manufacturing Company. Bond for damages and costs on appeal. ——— ———, proctor. Approved as to form. Edmund Wetmore, of counsel for compl't. U. S. circuit court. Filed May 8, 1882. Joseph M. Deuel, clerk.

130 Circuit Court of the United States for the Southern District of New York. In Equity.

HALBERT S. GREENLEAF *vs.* THE YALE LOCK M'F'G CO.

By the Honorable Addison Brown, district judge for the southern district of New York, to Halbert S. Greenleaf:

Whereas the Yale Lock Manufacturing Company has lately appealed to the Supreme Court of the United States from a decree lately rendered in the circuit court of the United States for the southern district of New York, made in favor of you, the said Halbert S. Greenleaf, and has filed the security required by law: You are therefore hereby cited to appear before the said Supreme Court,
at the city of Washington, D. C., on the second Monday of
131 October next, to do and receive what may appertain to justice to be done in the premises.

Given under my hand, at the city of New York, in the southern

district of New York, in the second circuit, the 8th day of May, in the year of our Lord 1882.

ADDISON BROWN.

(Endorsed:) U. S. circuit court, southern district of New York. Halbert S. Greenleaf vs. The Yale Lock M'f'g Co. Citation. Betts, Atterbury & Betts, 120 B'way, N. Y., def't's and app'l't's att'ys.

Due service of a copy of the within is hereby admitted. Edmund Wetmore, of counsel.

(Further endorsed:) U. S. circuit court. Filed May 15, 1882. Joseph M. Deuel, clerk.

132 UNITED STATES OF AMERICA, } ss:
Southern District of New York, }

I, Joseph M. Deuel, clerk of the circuit court of the United States of America, for the southern district of New York, in the second circuit, do hereby certify that the foregoing pages, numbered from one to one hundred and thirty-one, inclusive, contain a true and complete transcript of the record and proceedings had in said court, in the case of Halbert S. Greenleaf against The Yale Lock Manufacturing Company, as the same remain of record and on file in said office.

In testimony whereof I have caused the seal of the said court to be hereunto affixed, at the city of New York, in the southern district of New York, in the second circuit, this 13th day of October, in the year of our Lord one thousand eight hundred and eighty-two, and of the Independence of the United States the one hundred and seventh.

[Seal of U. S. Circuit Court, South. Dist. New York.]

JOSEPH M. DEUEL, *Clerk.*

Endorsed on cover: S. New York C. C. U. S. No. 166. The Yale Lock Manufacturing Company, appellant, vs. H. S. Greenleaf. Filed 7th November, 1882.



SUPREME COURT OF THE UNITED STATES.

THE YALE LOCK MANUFACTURING COMPANY

AGAINST

HALBERT S. GREENLEAF.

Suit No. 166.
October Term, 1885.

STATEMENT.

The bill in this case was filed by the complainant to restrain the alleged infringement of the *first* and *fourth* claims (p. 3, fol. 5), of letters patent granted to George Rosner, September 18th, 1860, for an improvement in permutation locks, reissue dated July 25th, 1871, No. 4488 (pp. 1–4).

The answer (p. 5) alleges prior knowledge by various persons, including D. H. Rickards, of Boston, who filed application for a patent March 13th, 1852, (p. 6, fol. 11), and Conrad Kerchner.

Denies validity of the reissue and title of the complainant, and that the complainant has sustained or suffered any loss or damage by any infringement by the defendant (p. 7).

Replication was filed (p. 8, fol. 14).

Proofs were taken on behalf of both parties (pp. 9–33).

The defendant relied upon the prior knowledge and use of the Rickards' lock (Defendant's Exhibit B, p. 18, fols. 33–34) as a defense to the first claim of the Rosner patent, and upon the Butterworth lock (Defendant's Exhibit E, p. 23, fol. 42) as a defense to the fourth claim of the Rosner patent.

The case was argued at the April Term, 1875 (p. 34), and a decree was rendered in favor of the complainant against the defendant *generally*, without specifying which claim or claims had been infringed.

The only proof of infringement, however, was that *one* style of defendant's lock (Cole No. 2) embodied the elements of the first claim, and *another* style of defendant's lock (Cole No. 1) embodied the elements of the fourth claim p. 12, fols. 20–1 and p. 13, fol. 22).

The Court rendered no opinion, and it does not therefore appear, by opinion or by the decree whether it found for the complainant on both claims, or on one only, nor upon which one.

The same Master was appointed in suits Nos. 164 and 165.

Evidence was taken before him until August 27th, 1877. He made a report (pp. 35–36), in which he assumes that the Court decreed that both the first and fourth claims were valid and infringed, and assessed the damage, on the basis of license fees, at $10,227.54 (p. 36).

The evidence before the Master is found in Record No. 164.

Exceptions were filed by the defendant (pp. 38–39), and the Court (Mr. Justice BLATCHFORD) sustained the exceptions (pp. 41–42), and set aside the report, referring it back again to the Master.

An order of reference back having been made, January 7th 1880 (p. 43), the Master made a second report (pp. 43–44), assessing the damages at $2,968.50.

This report he made on the basis of his report in suit No. 164, and he bases such report only upon the locks containing the feature of the "key-changing tumblers."

This was the alleged feature of the *first* claim of the Rosner patent.

No award seems to have been made, of any kind, upon the *fourth* claim.

The patent has now expired.

It is unnecessary to consider the fourth claim at all, as no damages were awarded in relation to it.

Owing to the generality of the decree, it is uncertain whether the Court decreed that the first claim was valid, and had been infringed; but in the following brief we shall treat the case as if such was the meaning of the decree.

ASSIGNMENT OF ERRORS.

1st. The Court erred in decreeing that the Rosner patent was valid. On the contrary, the first claim, which was the only one alleged to have been infringed upon which any damages were al-

lowed, was invalid by reason of the prior knowledge and invention of Rickards, and Kerchner.

2d. The Court erred in declaring that the complainant had suffered damages amounting to $2,968.50, or any other sum, from the alleged infringement of the defendant.

(*a*) Because the Master misapprehended the true nature of the invention, and had no legal basis upon which to assess or apportion damages.

(*b*) Because the evidence on its face was wholly insufficient to charge the defendant with that or any other sum, being indefinite, conjectural and speculative, neither reliable nor tangible.

(*c*) Because there was no sufficient or competent proof to show that it was by reason of any *infringement* that the complainant suffered any losses, or that any alleged losses were due to anything beyond ordinary business competition.

(*d*) Because the patentee, as a single member of the firm of manufacturers, could not, in his own name alone, recover for losses suffered by such firm, or at least could not recover more than his share of such losses.

(*e*) Because the Master did not offset profits on increased sales due to lower prices against any loss of profits due to lower prices.

FIRST POINT. The Court erred in decreeing that the first claim of the Rosner patent was valid.

The patent, in its preamble, says (p. 15): "This invention consists in combining with a set of permutation wheels or tumblers, constructed each of a rim and centre, an arrangement of bolts or equivalent devices, which fasten and unfasten said rims and centres by the use of a key inserted through holes in the cams in the wheels by which said bolts or equivalent devices are operated, the effect being to enable the relative position of the rims and centres to be changed so as to make a new combination by moving the driving pins to different positions relatively to the slots in the wheels."

He recites the prior state of the art in the following words (p. 16, fol. 27):

"Prior to my invention, in order to change the combination, "when a single set of wheels only was used, made up each of a "centre hub and rim, the wheels had to be removed from the lock "and adjusted by hand and then replaced."

He then describes the details of a construction by which the rim and hub may be unlocked from each other by a key, and adds:

"The novelty in the first part of my invention consists in the "combination of the fastening devices *r* with the wheels, con- "structed of three parts each, an outer rim, and a centre or hub "composed of two parts, secured together so that by inserting the "key the parts composing the wheels may be loosened and the "outer rims held stationary, while the centres or hubs are turned to "a different position by the action of the spindle, to rearrange the "combination and then the parts locked in place again, and all accom- "plished without removing the wheels themselves from the lock. In "all prior locks with a single set of wheels (each wheel made up of a "rim and centre hub), so far as I am aware, the wheels had to be "removed from the lock and the combination changed by hand."

It is evident from the above that Rosner believed himself to be the first person who used wheels whose rims were loosened from the hubs by a key while the wheels were in the lock, as distinguished from making the change by hand after removal of the wheel.

In other words, he claimed to be the first inventor of "key-changing" tumblers or wheels provided with removable centres, as distinguished from "hand-changing" wheels or tumblers of the same class.

His claim was in the following words (p. 17, fol. 28):

"1. In a permutation lock, in combination with a set of wheels, consisting each of an outer ring or rim and a central disk or hub, a set of fastening devices or bolts *r r*, which is made to fasten or unfasten said parts composing the wheels, whereby the combination of the lock may be changed, substantially as herein specified.

The subject matter of this claim was not new at the date of Sargent's patent.

Conrad Kerchner proves that thirty locks were made in 1853 and 1854 by Evans & Watson, safe-makers, of Philadelphia. One hundred more were made subsequently (p. 22, Q. 3).

Defendant's Exhibit B is one of these locks.

IRA L. CADY saw them in use as early as 1853 (p. 21, Q. 3).

Application for a patent for this lock was filed in the Patent Office by D. A. Rickards, March 13, 1852. A certified copy is in evidence (p. 18, fol. 33).

It is evident upon inspection that this Rickards' lock embodies the combination recited in Rosner's first claim.

It is a permutation lock; it has a set of wheels each formed of an outer rim and central hub; the rims and hubs are locked together by fastening devices which are made to fasten or unfasten by the insertion of a key through a keyhole in the back of the lock case, and through orifices in the wheels, and thereby a change of the combination may be effected.

This is the subject matter of Rosner's first claim.

If the Rickards' lock had been a structure subsequent in date to Rosner's patent, it is clear that it would have been an infringement.

Being prior in date, it is as clearly an anticipation.

On the subject of substantial similarity the defendant's witnesses testify as follows. MR. TOWNE says (p. 19, fol. 34):

"Upon examination of Defendant's Exhibit A, I find identically the same conbination of parts to exist, and identically the same results to be accomplished by the combination of said parts."

"In the lock shown in Defendant's Exhibit A there is a set of "wheels or tumblers, each composed of an inner and and outer disc, "and each having a locking device or bolt, which may be made to "fasten or unfasten the parts composing said wheels by the insertion "of a key through each or all of the wheels, whereby the combination "of the lock may be changed. I find, also, that this change in the "angular position of the two discs composing each wheel is effected "while the wheels are in position in the lock, without removing them "from their position and without opening the lock. For these rea-"sons I believe the two locks to be identical, in so far as relates to "the devices referred to in the first claim of said Rosner patent.

MR. IRA L. CADY, a practical and expert lockmaker, says (p. 21, Q. 4):

"Claim No. 1 in said reissued patent relates mainly to chang-"ing the combination of the lock. I find them substantially alike in "this particular or in the accomplishment of this object. In 'De-"fendant's Exhibit B' I find a set of wheels consisting of an outer ring "or rim, and a central disc or hub, and a set of fastening devices or "bolts; these fastening devices are so constructed as to engage and "disengage with a set of cogs on the central; and when disengaged, "as it is done by means of a key passed through a hole in the back

"of the lock, allows said central discs to be turned in any desired "position without affecting or in any way changing the position of "the outer ring or rim; then by removing said key the two sets of discs "are secured together and operated by the dial. This is substantially "the case in said reissued letters patent. I can see no material dif- "ference in the method of changing the combination in 'Exhibit B,' "and the method of changing the combination of the lock shown and "described in said reissued letters patent."

MR. KERCHNER, a locksmith, says (p. 22, Q. 4):

"4 Q. Please state if any, or all of these locks were so construc- "ted that the combination by which is meant the relative position "of the two discs composing each of the the tumblers or wheels, "could be changed by the insertion of a key through the back of the "lock, the change of combination being effected without opening "the lock or removing any part thereof?

"A. All of these locks were provided with a device of the nature "referred to in the interrogatory, by means of which the combination "was changed without opening the lock or removing the tumblers."

MR. E. S. RENWICK, the expert, confirms these statements as to the substantial similarity between the mechanism of Rosner's first claim and the Rickards lock, in great detail (p. 27, Q. 4).

The only mode suggested by the complainant to obviate the effect of this evidence is the following:

MR. H. B. RENWICK is examined, and makes the point that in the Rickards lock, Exhibit B, owing to what he calls "the absence of key-holes in the rims" of the combination wheels, the key will not hold the rims at rest while the hubs are being rotated to a new position (p. 30, Q. 1).

Mr. Renwick defines a "key-hole" as "an orifice which supports a key in a certain position" (p. 31, fol. 54); in other words, he would limit the meaning of "key-hole" to a hole which *fits* a key.

He says that the Exhibit B has no *such* key-hole.

To this position we answer—

(*a*) A key-hole which *fits* is not an element of the claim sued on.

MR. E. S. RENWICK is asked and says (p. 29, Q. 5):

"5 Q. Look at the reissued patent No. 4488, and state whether or not, as you understand the said patent, the key-holes in the sev- eral wheels constitute elements of the combination recited in the first claim of the said reissued patent?

"A. In my opinion they do not, because they are not recited in

the claim or described in the patent as parts of the said combination, and because, also, the combination of the wheels and fastening devices recited in the said claim may be made operative for all the valuable results mentioned in the description on the two paragraphs commencing with the words 'Prior to my invention,' and "I obviate," without having any key-holes in the wheels. Thus, for example, the wheels might be constructed with a slot in the edge of each, through which a bit of a key might be arranged to turn for the purpose of operating the locking mechanism, and the key might be arranged to turn at one side of the peripheries of the series of wheels. Moreover, as it is not essential that the key should hold the wheels while the locking devices are being operated, and while the tumbler wheels are being set to a new combination, the use of key-holes in the wheels, for the purpose of enabling the key to hold the wheel, is unnecessary."

The claim is not, therefore, on its face, limited to a combination in which one element is a key-hole that fits, and no such limitation can be inferred, because it expressly appears, by the specification, that Rosner supposed himself to be the first inventor of key-changing tumbler locks in which the rims were loosened from the hubs by a key *in any manner*.

As Rosner did not *intend* to impose a limitation on himself, and as his claim does not *in fact* impose it, the Court can not judicially reissue his patent for him, nor incorporate into it limitations which he has not designed. *

(*b*) An orifice for the insertion of a key (but not an orifice which

* Judge SHIPMAN, who made the decree in the Court below, has himself, within the past few days, rendered a decision which shows that such decree was erroneous, as to the validity of the first claim, because such decree *must have been based*, as to such claim, upon a *constructive limitation* of the claim not contemplated by the inventor.

In *Bradley and Hubbard Co. vs. Charles Parker Co.* (33 Off. Gaz., 248, January 12, 1886), Judge SHIPMAN refused to limit a claim, broad enough in its phraseology to include an anticipating structure, to the specific structure shown in a patent, though that specific structure did have special advantages, saying:

"Such a construction does not seem to me tenable, because I cannot find in the patent a "suggestion that the patentee thought that this peculiarity of construction was a distinctive "feature of his invention. * * *

"This construction was not, in the mind of the patentee, a part of the essence of his inven- "tion, and the effect produced by the construction was not a part of the expressed object of the "claim. * * *

"In consequence of the omission, I think that his patent states and claims nothing which "the public did not have previously, and that the title of his assignee to the exclusive use of "his actual improvement is therefore defective."

The bill is dismissed.

while the inner disc is moved?

"A. It acts in the same manner in this respect as does the key in the Rosner lock, except that, as this lock is constructed, but one end of the key is supported by bearing in the case, and that it does

not fit snugly within key-holes in the tumbler, so that while it prevents a revolution of the tumblers, it does not entirely prevent a slight motion of the outer disc."

Mr. E. S. Renwick confirms this (p. 29, Q. 6).

Mr. H. B. Renwick, while he points out the difference, *does not allege that it is of any practical importance.*

It is clear, also, upon inspection, that there is *no utility* in the Rickards lock of a key-hole which fits the key, to hold the rims stationary, because the rims are *necessarily* held stationary by the tail of the bolt in the gates in the wheels (Towne's Ev., Rec. 164, p. 127, fols. 219–20).

The complainant cannot support his patent upon a difference of detail not made a feature of his claim, and of no practical utility if it were one.

The bill should therefore have been dismissed as to the first claim.

SECOND POINT. The Master's Report was erroneous and the decision of the Court below confirming it should be set aside.

There was no opinion of the Court either upon the making of the interlocutory decree, nor upon the confirming of the Master's Report.

The Master's Report contains the only reasons that have been judicially assigned for sustaining it, and these are very vague and weak.

The authority of the Master is much impaired also by the singularly inconsistent position in which he placed himself.

In his report in suit No. 164 he assessed the damages on the theory that the use of the "turning bolt" was twice as valuable as the Rosner device, yet in his first report, in No. 166, he assessed the "actual" (?) damages due to a *smaller number* of infringing locks, containing the *less* valuable device, at upwards of $10,000, while he placed (in suit No. 164) the damages due to the *more* valuable device at $7,000.

The damages were clearly *more* than *actual.*

The Court set this report aside, and he then adopted a wholly

different scheme of assessment, and attempted to ascertain the proportion of decrease of price of the Sargent & Greenleaf locks, which was due to the use of what he calls the "key-changing tumbler."

To this report numerous exceptions have been filed (pp. 57–58).

These exceptions present the following objections, which we deem insuperable.

(*a*) *There was no evidence tending to show value in the alleged invention.*

The evidence as to the value of the device claimed in the reissued patent of Rosner was wholly directed to showing that "key-changing tumblers" were more convenient and marketable than "hand-changing tumblers."

There is not a particle of evidence anywhere in the record that puts *any* value on the *only* alleged novel feature of Rosner, viz., the use, in Rickards' combination, of a key-hole that *fits*.

It was absolutely necessary that evidence should have been introduced on this point, but none was *even attempted* by complainant.

On the other hand, the defendant proved, without contradiction, that there was *no* value.

Mr. Towne said (Rec. 164, pp. 221–3, fols. 373–377) that

(1) The Rickards tumblers could have been used in both the Sargent and Yale locks.

(2) That there would be no material difference in cost.

(3) That the Rickards tumblers could be made as small as Rosner's.

(4) That no Rosner tumblers of the specific form shown in his drawings were ever used.

None of these statements were disputed.

The Master seems to have wholly overlooked the absence of all proper evidence tending to show the value of what was novel in Rosner.

His report is vague, but, so far as can be judged, he bases it solely on the evidence of Sargent, and that evidence is not based, at all, on the *only* feature which is even claimed to have any novelty.

(*b*) *The evidence for complainant was in any event wholly conjectural and speculative.*

There was introduced before the Master the earlier patent of Lyman F. Munger, Reissue, dated October 17, 1871 (p. 137, fol.

237), and a specimen lock, containing the Munger tumblers (p. 208, fol. 350).

Sargent himself testified that he was acquainted with the Munger tumblers, and being asked (fol. 237) "whether the Munger tumblers "can be substituted in a safe lock for the Rosner tumbler, and per- "form the same functions in relation to the locking or unlocking of "the tumbler," says:

"I am acquainted with the Munger tumbler and *do consider* the "locking and unlocking device *is similar in each lock*."

The Rosner patent is, therefore, merely for a *particular* kind of key-changing tumber. The hand-changing tumblers were, of course, well known long anterior to the Rosner patent. Rosner is claimed to have invented merely *a particular* kind of key-changing tumbler.

All the other parts of the lock, so far as this patent is concerned, the defendants were entitled to make, and the only thing for which they can be held accountable is such profit or damage as may be proved to be due to the use of the particular kind of key-changing tumbler described in the Rosner patent.

In view of the evidence therefore of the prior existence of other forms of tumblers, both hand-changing and key-changing, it became the duty of the complainant to point out what, if any, specific and peculiar pecuniary advantages there were which were to be derived from the use of the special form of device patented by Rosner. This was not done. We shall find on examining the evidence that nothing of this kind was seriously even attempted. Yet the Master announced in his report, that he finds the value of the Rosner device, in computing Sargent's damages, to be one-third of the value of the lock, and then proceeds, *without stating why*, to assess the damages suffered by the complainant by infringement of the Rosner patent at *one-quarter* of the whole reduction in price made by the complainant.

In doing this he has allowed *nothing* for the value of much more important features of the lock, viz., the case, the dial and spindle, the connections, &c., (Towne, Rec., 164, p. 206, fol. 348).

A careful inspection of the evidence will show that there is not one particle of a legal proof to support the Master in either estimate, nor *in any other mode of apportionment.*

The only evidence on the subject is as follows:

The witness *Henry L. Brevoort* (Complainant's Ev., p. 64) is

asked to examine one of the defendant's locks, and state his opinion as to how much of the value and utility of the lock is due to the particular construction which embraces the turning bolt and the device of the key-hole and key for changing the combination of the tumblers. He answers (fol. 192), "the exhibit in its *present form* "depends for its value *entirely* upon its turning bolt, and must so "depend from the construction of the lock. This must be true "of this lock unless such alterations were made upon it as "to alter its principle and mode of operations, which al- "terations would form substantiall a different lock. *There-* "*fore, I think that I can say that the entire value* "*of the lock is due to this turning bolt used in combination with the* "*the bolt works of the door.*"

It seems, therefore, from this expert's opinion, that the whole value of the lock lies in the turning bolt. There can, therefore, be no value in the other patented device, to wit, the key-changing tumbler. That the whole value of an article such as a combination lock which had been used for many years before Sargent ever thought of making one, in many different forms, could rest in a single altered feature, which he had introduced, is obviously an impossibility on its face. But the expert immediately proceeds to contradict himself by saying, "the key-hole in the back of the lock, enabling changes "to be made in the combination without a removal of the tumbler, "*also adds greatly to the value of the lock;* and to this key-hole the "ease of alteration of the combination is *entirely* due."

Comment upon these opinions is almost unnecessary. After having stated that the whole value of the lock depends upon the turning bolt, he then goes on to say that the key-hole adds greatly to its value. The two propositions are plainly inconsistent. (Notice too, that is *not* the key-hole in the rim of the tumblers, to which Brevoort attributes value, but to the key-hole "back of the lock;") he does not seem to appreciate what the Rosner patent was for. It certainly was not for a key-hole, nor was it the first lock in which changes could be made in the combination without a removal of the tumblers. Key-holes had been previously used for the same purpose, and the combinations of locks had been changed without removing the tumblers. Both of these features are found in the Rickard lock, and in the Munger patent lock long anterior to Rosner's invention. Rosner's patent is alleged to be for a Rickard's lock having a key-hole which fits the key, nothing else. No estimate is hinted at on this basis. The cross-examination of the expert

shows that he is also entirely unfamiliar with even other forms of bolts used. His evidence is of no value or importance.

The only other evidence on this point is that of *Mr. Sargent* himself, one of the complainants. It is very obvious that he is an interested witness. He is asked a similar question (p. 7, Q. 25), and says: "I attribute the value of this "lock *to the revolving bolt patent.* The value of it to the sale of all "the locks we have made, two-thirds of it is attributed to the re- "volving bolt and one-third of it *to the changeable wheels and key;* "as there has never been before nor since my patent any cheap fire- "proof safe locks ever put upon or come into the market that has "taken with safe manufacturers, but to a small extent, without their "having combined in them those chief elements which are the re- "volving bolt and *the key to change the combination.*"

The value of this evidence of Mr. Sargent is nearly equal to its orthography. It may mean nearly anything or everything, according to the order in which the sentences are read.

It is plain that his mind is not directed to the only alleged point of novelty of the Rosner device. He talks *generally* about "the changeable wheels and key," a phrase equally applicable to the prior devices of Munger and of Rickards.

He gives no reason why he "attributes" the relative values of the devices in the way he does, and his own statement carries with it its refutation; for while he apparently says he attributes the whole value to these two features, he in the same answer admits that other locks have been made and put upon the market "to a small extent," "without their having combined in them those two "chief elements." What *he* calls "a small extent" he nowhere else defines, and what is the proportion of value between locks *not* containing "those two *chief* elements" and locks *with* said elements he nowhere informs us.

We submit that when the complainant's evidence consists only of an expression of opinion, so haltingly worded and vague in its nature, it cannot properly be made the basis of a report against the defendant; this is more especially true in the present case, for the following reasons:

1. The Master himself has discredited it.
2. The defendants have contradicted it.

3. It is wholly a matter of assertion and conjecture, and affords no safe basis for a judicial decree.

(1) The Master himself has discredited the opinion of Sargent.

He says in his report in suit No. 164, annexed to his present report, and referring *to the same identical* answer of the witness Sargent:

"The complainant Sargent says he estimated it (the turning "bolt) at two-thirds the profit of the lock, but he gives no basis for "such computation, and there is *no testimony* to support his *theory* "as against the testimony produced by the defendant."

What is thus admitted to be true of the first part of the answer of the witness, when he attributes *two-third* value to the turning bolt, is equally true of and applicable to the last part of the *same* answer, when he attributes *one*-third to the key-changing device.

Yet, having deliberately rejected this estimate as vague and unsatisfactory in the one case, the Master proceeds to base a finding on it in the other.

(2) The statement of Sargent is a mere assertion or conjecture. Such statements are not allowed to prevail as evidence.

The same Master and the Court rejected similar evidence by the witnesses Munger and Cady in *Sargent vs. Yale Co.*, No. 2 (17 Blatch., 249), the Court saying: "I think the Master was right in rejecting the estimate of the witness Munger and the general evidence of the witness Cady."

In *Garretson vs. Clark* this Court held that:

"The patentee must, in every case, give evidence tending to "separate or apportion the defendants' profits and the patentee's "damages, between the patented feature and the unpatented "features, and such evidence must be reliable and tangible, and "not conjectural or speculative."

In *Ingersoll vs. Musgrove*, 14 Blatch., 541, the Court held that, "where a patentee claims, in a suit, damages for a reduction of his "prices caused by the defendant by infringing the patent, he must "establish, by satisfactory evidence, not only that a reduction of "his prices was caused by the infringement, but how much such "reduction was, and how much of it was occasioned by the acts of "the defendant, and *how much was due to the fact that the infringing articles contained the invention patented.* Such evidence must "not be estimate, conjecture and opinion, but must be such as to "afford a sound and safe basis of calculation."

(3) The defendants contradicted this estimate.

They showed that hand-changing tumblers were used to a much larger extent than key-changing tumblers, and were preferred over them in many cases, and were used in some styles of Yale locks.

Allen, p. 183, fols. 311–312.

Butler, p. 196, fol. 331.

They also showed that other forms of key-changing tumblers than Rickards' and Rosner's [which last were alike in utility (Rec. 164, pp. 221–3)], were in use, and were open to the public to use, which were equally advantageous and had been largely introduced into use.

Mr. Towne said (p. 207, fol. 349):

"For the *latter* [the 'Rosner' tumblers], the Yale Lock Company "could have used the 'Munger' tumbler, which they already em- "ployed in their No. 6 lock, and which other lockmakers (for e xam "ple, Hall of Boston and Macneale and Urban of Cincinnati) had "long used in first-class bank locks with entire satisfaction and suc- "cess. The cost of these tumblers would not vary materially from "those actually used in the Yale lock, and they enabled the combi- "nation to be changed with a key from the back of the lock with "the same convenience as in the Rosner patent.

"Further, the Yale Lock Company could have used in their fire- "proof locks the same tumblers which they were then and are now "using in their bank locks" [hand changing tumblers].

"Both kinds of tumblers were of the same diameter and thick- "ness, and the same tools were used in the manufacture of both, the "cost of both being substantially the same. To have made this "change would have involved but very slight expense to the Yale "Lock Company; and as the hand-changing tumblers were used "with entire satisfaction in the Yale bank locks, I believe that "they could have been introduced successfully, and with but little "trouble, in the Yale fire-proof safe locks.

"This company, therefore, had two substitutes for the Rosner "patent, either of which they could have used with impunity, and "both of which had been demonstrated, in actual practice, to be "satisfactory and good, both of them being already in use in other "styles of locks made by the company."

We have already seen that Sargent himself considers the "lock- ing and unlocking devices" of the Rosner and Munger tumblers "similar in each lock."

There is, therefore, not a particle of evidence tending to show the value of Rosner's contrivance over others previously known in the art. On the contrary, there is direct evidence showing that there was no pecuniary value in its use.

That the estimate of Sargent is clearly extravagant is shown from the fact that the Rosner form of tumblers was only a modification or improvement upon the form of key-changing tumbler patented by Munger. All Rosner tumblers are covered by the claims of the Munger patent (see that patent), and it is conceded by the plaintiff Greenleaf himself that the Munger invention was twice as valuable as that of Rosner, for in licensing parties under both patents "two-thirds of the royalty was allowed for the Munger "patent, and one-third for the Rosner Patent" (Rec. 164, p. 106, fol. 184).

Yet, now the Master in valuing the Rosner device considered that it was the only feature of value in the *complainant's* lock, except the turning bolt, and allowed *nothing* for the value of the Munger features which underlay those of Rosner.

(c) *Any Damages which can be Recovered must be the Separate Damages of the Plaintiff. He Cannot Recover the Losses of his Firm.*

We have already considered this objection to the Master's report in discussing Case No. 164.

In that case Sargent, *one* of the members of the firm of Sargent & Greenleaf, claimed to recover all the losses *of his firm* by reason of infringing the Sargent patent.

In the present case, Greenleaf, the *other* partner of the firm, seeks to recover all the losses of his firm by reason of the infringement of the Rosner patent.

The statute limits the patentee, in all cases, to recover only *his* "*actual*" damage.

Damages can only be recovered "in the name of the party interested" (R. S., Sec. 4919).

He cannot recover the damages of any one else, even though the other person be his partner in business.

If it had been sought to recover the damages suffered by the firm, the bill should have made the firm parties, alleging that they were licensees under the patent. Having failed to do so, the plaintiff can recover only such damages as he can prove that he *himself* suffered.

(*d*) *The Master made no allowance for the fact that the damages to the plaintiff could not be ascertained without taking into account the fact that the sales of the plaintiff were greatly increased by lowering his prices.*

This point has already been considered in Fifth Point, Subdivision (*g*), Case No. 164.

The same argument applies to the present case.

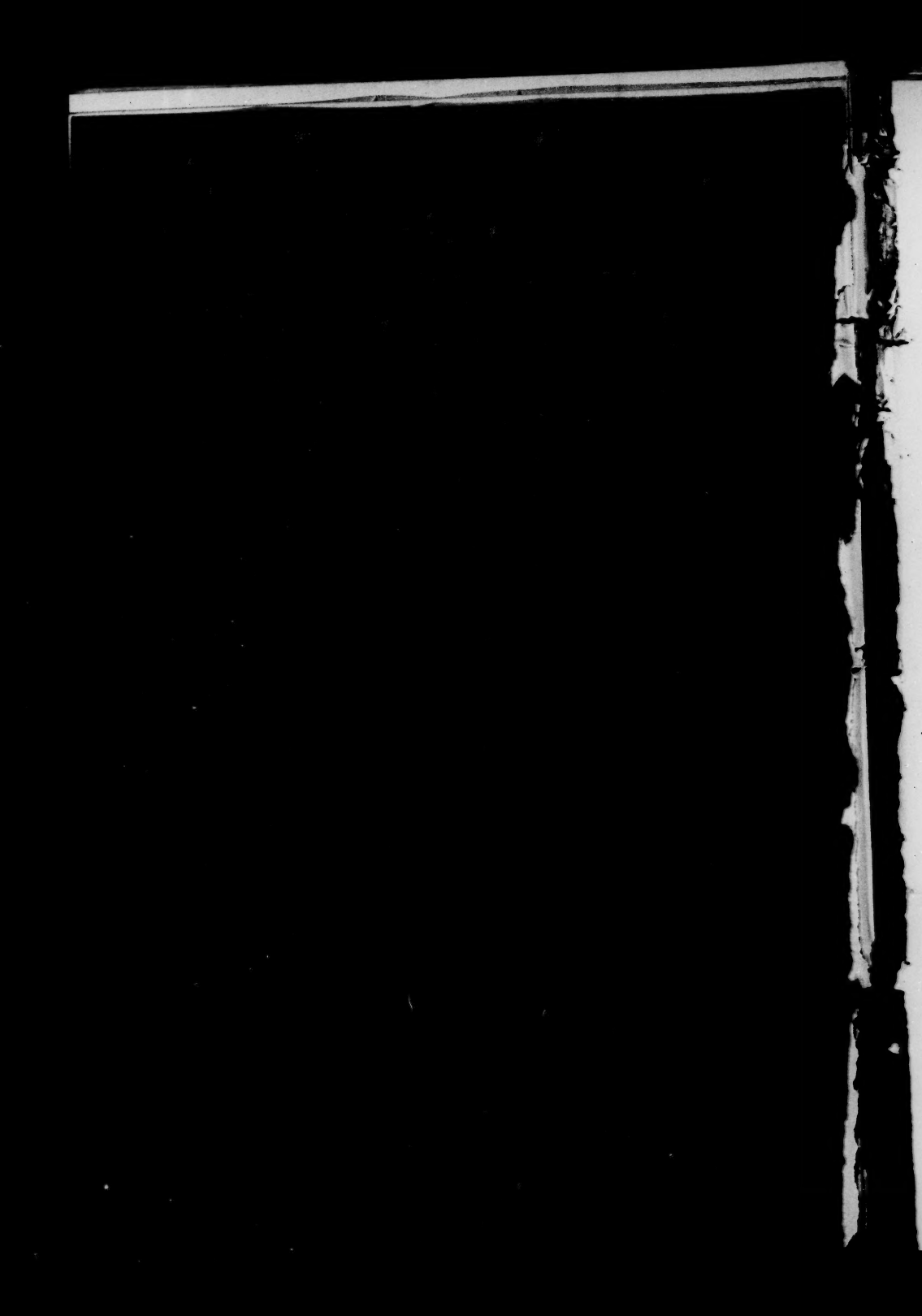
The Master should have taken into consideration the facts which the Court held in "*Ingersoll vs. Musgrave*" to be material.

He does not appear to have done so.

THIRD POINT. Both the interlocutory and final decrees are erroneous. They should be reversed, with instructions to dismiss the bill.

Respectfully submitted,

FREDERIC H. BETTS,
Counsel for Appellant.



Supreme Court of the United States.

OCTOBER TERM, 1886.

THE YALE LOCK MANUFACTURING COMPANY, *Appellant*,

vs.

HALBERT S. GREENLEAF.

No. 166.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF N. Y.

BRIEF FOR THE APPELLEE.

GEO. TICKNOR CURTIS,
EDWARD WETMORE,
Of Counsel for the Appellee.

The assignment of errors in this case sets forth:

1st. The court erred in decreeing that the Rosner patent was valid. On the contrary, the first claim, which was the only one alleged to have been infringed upon which any damages were allowed, was invalid by reason of the prior knowledge and invention of Rickards and Kerchner.

2d. The Court erred in declaring that the complainant had suffered damages amounting to $2,968.50, or any other sum, from the alleged infringement of the defendant.

(*a*) Because the Master misapprehended the true nature of the invention, and had no legal basis upon which to assess or apportion damages.

(*b*) Because the evidence on its face was wholly insufficient to charge the defendant with that or any other sum, being indefinite, conjectural, and speculative, neither reliable nor tangible.

(*c*) Because there was no sufficient or competent proof to show that it was by reason of any *infringement* that the complainant suffered any losses, or that any alleged losses were due to anything beyond ordinary business competition.

(*d*) Because the patentee, as a single member of the firm of manufacturers, could not, in his own name alone, recover more than his share of such losses.

(*e*) Because the Master did not offset profits on increased sales due to lower prices, against any loss of profits due to lower prices.

Under the decree entered by the Court below it was adjudged that the reissued patent in suit was a good and valid patent, and that the defendant had infringed upon said patent and upon the exclusive rights of the complainant under the same.

The bill of complaint alleged infringment of the first and fourth claims of the reissued patent No. 4,488, and the decree, though not specifying in terms upon this point, is equally comprehensive with the allegation.

The claims of which infringement was alleged were the 1st and 4th claims in the reissued patent of Geo. Rosner, dated Sept. 18, 1860, No. 4,488.

The first claim covers—

> "In a permutation lock, in combination with a set of wheels, consisting each of an outer ring, or rim, and a central disk, or hub, a set of fastening devices or bolts, *r*, *r*, which is made to fasten or unfasten said parts composing the wheels by the insertion of a key through each or all of the wheels, whereby the combination of the lock may be changed, substantially as specified."

One of the novel features of this invention consists in—

> "The combination of the fastening devices *r* with the wheels, constructed of *three* parts each, secured together so that, *by inserting the key* the parts composing the wheels may be loosened *and the outer rings held stationary*, while the centers, or hubs, are turned to a different position by the action of the spindle, to rearrange the combination." * * * (Spec'n Rosner patent.)

In the lock described in the Rosner reissue, referred to, each outer rim has a key-hole in it, this key-hole being formed in a little cam, which, when turned by the key, operates the fastening devices. These cams always occupy the same position in the rims, and the key therefore performs two duties, viz: first, that of locking and unlocking the fastening devices; *and secondly, the duty of holding all the rims at rest*, with their gates coincident, and the rims must be held in this position when the combination of the lock is to be changed. (Renwicks test'y, Rec., p. 31, folio 54.)

It is in this *double* function discharged by the key that the novelty of the combination resides.

The prior invention of D. H. Rickard, shown in Exhibit B, is the principal device by which the novelty of the claim has been attacked. The lock of the Exhibit shows a set of wheels, each consisting of an outer rim and a central disc; also a set of fastenings, devices, or bolts, by means of which the rim and disc of each wheel may be secured so as to revolve together, or may be permitted to revolve separately when the fastening device is unlocked; but it has no key-holes through the outer rims of the wheels. The key of the lock Exhibit B does not and can not perform the duty of holding all the rims at rest owing to the absence of key-holes in the rims, and as the key-hole is one of the elements of the combination recited in the first claim of the Rosner patent the exhibit lock is not the same. (Renwick's test'y. Rec. p 30-31, folio 54-55.)

In the specification of the Rosner patent, it is stated that—

> "Where the key is inserted and the fastening device thrown back, it will be seen that *the rims of the wheels are held stationary by the key*, while the centers may be turned to any different position by the spindle, thus setting the lock to a new combination."

The lock of Exhibit B has no key-holes in the outer rims of the permutation wheels, nor has it any equivalent for key-holes, by which the key can hold the outer rims at rest while the combination of the lock is changed. (Rec., p. 32, fol. 57.) On the contrary, the Exhibit lock can only be permuted by first gating the tumblers; that is, aranging them so that the slots therein are all in line, and then retracting the bolt until the tail of the latter enters the gatings of the tumblers. The construction is such that the combination wheels can only be held, as to their outer rims, by the tail of the bolt, whenever it is desired to change the combination, and in this respect it is not only clearly proved,

but is virtually admitted by the defendant that the Exhibit lock differs from the lock of the Rosner patent.

(See Towne's test'y, Rec., p. 28, fol. 35, X-Q 4.)
(E. S. Renwick's testimony, p. 28, folio 50.)

The question whether Rosner *intended* to impose such a limitation upon himself is not before the Court. The fact appearing upon the record is that the combination is new, when it includes the keyhole, and that the first claim of the reissue recites the insertion of a key through each or all of the wheels. Plainly, the Court below correctly held the patent good and valid, under the rule *ut res magis valeat quam pereat.*

(*Adams* vs. *Joliet Manf. Co.*, 12 Off. Gaz., 93.)
(*Stover* vs. *Halsted*, 13 Blatch, 95.)

The feature of difference is also a feature of practical utility, as it expedites and simplifies the operation of changing the combination of the lock. For example, in the Rickard lock the wheel must be gated, and the lock-bolt shot back until its tail enters the gatings of the wheels before the center can be moved. In complainant's lock no such preliminary arrangement is required, the simple insertion of the key serving the same purpose.

The lock of defendant's Exhibit E was also produced to support the allegations of want of novelty in the 1st claim of the Rosner patent; but, having been tacitly dropped, no consideration thereof is necessary.

The difference in detail upon which the novelty of the claim depends is included in said claim by express terms, and is clearly brought out in the specification.

> "The claim must be construed in connection with the entire specification, and in view of the state of the art at the time. The invention is a valuable one,

and the patent ought to be so construed as to be sustained, if possible."

(*Rogers* vs. *Sargent*, 7 Blatch., 507.)

Regarding the fourth clause of the claim of the patent in suit, the testimony attacking its novelty wholly broke down, and as no damages were awarded in relation thereto, the claim has received no consideration.

THE FINDING OF THE MASTER AS TO THE AMOUNT OF DAMAGES WAS CORRECT, AND THE DEFENDANT'S EXCEPTIONS TO HIS REPORT WERE RIGHTLY, OVERRULED BY THE COURT BELOW.

The Master made his first report upon the basis of two licenses, granted by the complainant; one for the use of one of the claims of the Rosner patent in bank locks, and the other for the use of the Rosner patent, together with another of the complainant's patents, known as the Munger patent. Of the royalty received, in the latter case, one-third was allowed to the Rosner patent.

(Master's first report, Rec. pp. 35, 36.)

The licenses furnished a royalty of $6.66 for bank locks and $2.22 for fire-proof safe locks; which would charge the defendant on its locks made and sold during the period of the accounting with $10,227.54

The Court held this amount to "exceed the actual damages on any fair view of the case," and set aside the report and sent the case back to the Master.

(Rec. p. 42, m., p. 45.)

In a second report the Master reduced the damages to $2,968.50, which he found to represent the loss inflicted upon the complainant by the enforced reduction of complainant's prices, owing to the defendant's unlawful competition. (Rec., pp. 43, 44.) The larger part of that loss he rightly attributed to the infringement of the turning

bolt patent. He allowed one-third of the whole loss, which he estimated as due to this cause, to the infringement of the patent involved in this suit, for the device of the key changing tumblers.

As already shown in the brief in case No. 164, the loss due to the defendant's competition was very much greater than the total sum the Master has allowed in both cases. The sum found in this case is a very small fraction of that actual loss.

In estimating the damages, not only the loss inflicted upon the complainant by competition, but the value of the property taken may be considered. The value of property appropriated is an element which it is always proper to consider in measuring damages.

The evidence in this case shows—

1st. The license fees paid in two instances, which, if not enough to establish a market price for the invention, are pertinent evidence in estimating its money value. The royalty paid, if adopted in the present case, would give over three times the amount the Master has allowed. (Rec., p. 36.) This might be too much because the licensees made a much smaller number of locks than the defendant, and so could afford to pay more; but the fact remains that the licenses were genuine sales of the invention, and the price paid was presumably a fair one for a maker making a small number of locks, so that that price may be considered, with other circumstances, as furnishing important evidence as to damages.

2d. The evidence also shows, and an inspection of the defendant's infringing lock makes clear, that as that lock was constructed, and without a total reorganization, it could only use key changing tumblers. Hand changing tumblers could not be used, because the lock is so made that the tumblers cannot be taken out without taking the lock apart.

Had it not been for its infringement of this invention of key changing tumblers the defendant would not have been able to enter the field of competition with the complainant's turning-bolt lock at all, unless a new lock should have been invented for it.

3d. The evidence also showed the great convenience of key changing over hand changing tumblers, and the consequent superior attraction to purchasers of a lock furnished with the key changing device. A notable instance of this appeared in the case of Terwillinger & Co., who ceased to buy the Pillard lock as soon as its maker was compelled by the complainant's suit to relinquish key changing and return to hand changing tumblers.

(See Rec., case No. 164, pp. 103, 116, 117, 123.)

(The evidence on the accounting, in case No. 164, was stipulated into cases 165 and 166, Rec., No. 164, p. 272.)

From all the foregoing facts and the whole evidence, and regarding only the direct effect of the defendant's infringement, the small sum found by the Master—less than three thousand dollars—is not excessive.

It is unnecessary to repeat what has been stated in our brief in case No. 164, in respect to the principles which it is submitted should control in arriving at a proper measure of damages in a case like the one under consideration. The application of these principles, it is submitted, justifies the conclusion reached by the Master, and there was no error committed by the Court below in refusing to overrule the exceptions to his report.

GEORGE TICKNOR CURTIS,
EDWARD WETMORE,
Of Counsel for the Appellee.

117-554

Greenleaf
vs.
Yale Lock Mfg. Co. } *Suit No. 3.*

Defendant's Exhibit A—J. G., Jr., Comr.

THE U. S. PATENT OFFICE.

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME, GREETING:

This to certify that the annexed is a true copy from the files of this Office of the specification and drawing in the matter of the application of D. H. Rickards, filed March 13th, 1852, for "Improvements in Locks."

In testimony whereof, I, J. M. Thacher, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this twenty-eighth day of October, in the year of our Lord one thousand eight hundred and seventy-two, and of the Independence of the United States the ninety-seventh.

[SEAL.]

JNO. THACHER,
Acting Commissioner.

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, D. H. Rickards, of Boston, in the County of Suffolk and State of Massachusetts, have invented certain new and useful improvements in locks and that the following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements by which my invention may be distinguished from others of a similar

class, together with such parts as I claim and desire to have secured to me by letters patent.

The figures of the accompanying plate of drawings represent my improvements:

Fig. 1 is a plan or top view of my lock with the plate removed.

Fig. 2 is a longitudinal, vertical section taken in the plane of the line A B, fig. 1.

Fig. 1 and fig. 3 is a transverse section taken in the plane of the line C D, fig. 1.

Fig. 4 is a detail view which will be hereinafter referred to.

My improved lock consists of a series of corrugated or scolloped plates with slots in each of them large enough to receive the end of the bolt when it is drawn back a sufficient distance to open the door. By a peculiar arrangement, which will be hereinafter explained, the lever which operates the bolt cannot be acted upon in any degree by the key until the said plates have been brought into the proper position to receive the bolt, which is thus secured against any tampering, by "feeling" it with the key.

My improvements consist in the manner of connecting the notched plates to the gear wheels which move the same, by means of levers and in disengaging the levers from the gears when it is desired to set or change the position of the said gears, which can by this arrangement be turned without moving the plates.

a, *a*, *a*, *a*, in the drawings represents the outer casing or framework of the lock; *b b*, *c c*, *d d*, are three circular plates with their periphery notched or scolloped, as shown in fig. 1, being made precisely alike and placed one over another in a stationary box; *e e*, *f f*, *g g*, *h h*, are three gear wheels, also made alike and having the same number of teeth in each of them, as there are scollops in the plates. These gear wheels turn loosely on the centre stationary shaft *i i*, and are connected to the plates by means of the dog levers *k*, *k*, *k*, the palls of which engage with the teeth of the gears, being held therein by the bent springs *l*, *l*, *l*. One end of each of the levers bears against a shoulder in the notched plates, a stud or projection *m* of the said levers entering a hole made for the purpose in the plates. The levers can be disengaged from the teeth of the gear wheels and consequently disconnect the plates from the said gears by inserting a proper key or instrument *v* from the bottom or back of the lock, as shown in fig. 3, leaving the gears free to be turned so that the combination of the lock can be changed. When the plates are disconnected from the gears they are held firmly in their places by the

movable bars or rods *n*, *n*, *n*, which are pressed upon by spiral springs, the end of said rods passing or slipping over the notches of the plates when the said plates are turned.

o, *o*, in the drawings is the key, the shaft of which is hollow, so as to fit over the centre shaft *i*, *i*, and has a stud or rod *p*, in its right angular projection *j*, which fits into proper holes in the gears *f f*, *g g*, *h h*, the said stud being long enough to enter into the hole of the bottom gear. When the slots *q*, *q*, *q*, of the plates are so placed by turning the gears as to bring the said slots over one another and opposite the bolt, in which position they are shown in the drawings, the bolt can be drawn back so as to enter said slots, by the projections *j*, of the key working in the forked end of the lever *r*, *r*, attached to the bolt *s*, the stud *p*, of the key being drawn out of the holes in the gears, so as to entirely disconnect it from the said gears.

The operation of the lock is as follows:

The bolt being drawn back into the slots of the plates by the key working in the forked lever *r*, *r*, as above described, the dog levers *k*, *k*, *k*, are disengaged from the teeth of the gears, as represented by dotted lines in fig. 2, by inserting the cam key *v*, from the back of the lock and turning the said cam key into the position shown by dotted lines in fig. 2, so that they can be turned while the plates are held by the pressure bars or rods *n*, *n*, *n*. By inserting the stud *p* of the key through all the holes of the gears, it will be seen that the gears can be turned to any desired position, one tooth or notch at a time, being held at each tooth by the pall or spring *t*, *t*, *t*. The stud *p* is then drawn out from the lower gear so as to turn only the two upper gears, the number of teeth which they are turned being noted, when the key is again drawn out so as to turn only the upper gear and the dog levers *k*, *k*, *k*, are then allowed to engage with the teeth of all the gear wheels. It will be seen by the above description that by turning the gears, when the levers are engaged with the teeth of the same, the slots in the plates will not remain one over the other, but will have different relative positions according to the number of notches which the gear wheels were turned. The slots *q*, *q*, *q*, can be brought over one another so as to allow the bolt to be drawn back, by turning the plates severally the same number of notches that their gear wheels were turned respectively. This number can be denoted by notches or projections on the knob of the key as shown in fig. 4, with figures or letters on the same corresponding to the number of teeth in each wheel.

Having thus described my improvements in locks I shall state my claims as follows:

What I claim as my invention and desire to have secured to me by letters patent is,

First. Changing the combination of the lock by means of a cam key inserted from the back of the lock, by which the dog levers are disengaged from the teeth of the gear wheels, substantially as above described.

Second. I claim the manner of connecting the gear wheels to the plates, so that the said gears can be moved either with or without the plates, by means of the movable dog levers operating substantially as above described.

Third. I claim the movable pressure bars operated by spiral springs and working in the notches of the plates for the purpose of holding the said plates when they are disconnected from their gears.

D. H. Rickards.

Witness:

Joseph Garrett,

Lowell Lincoln.

D. H. Rickard.
Lock.
Filed Mch 13 1852.

Fig. 4

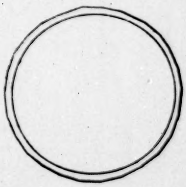


Fig. 3

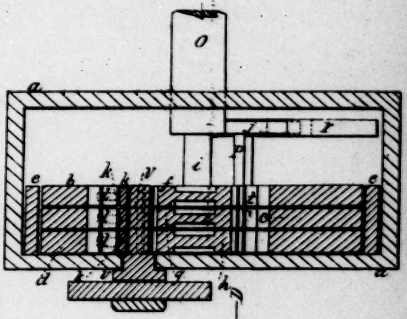


Fig 1

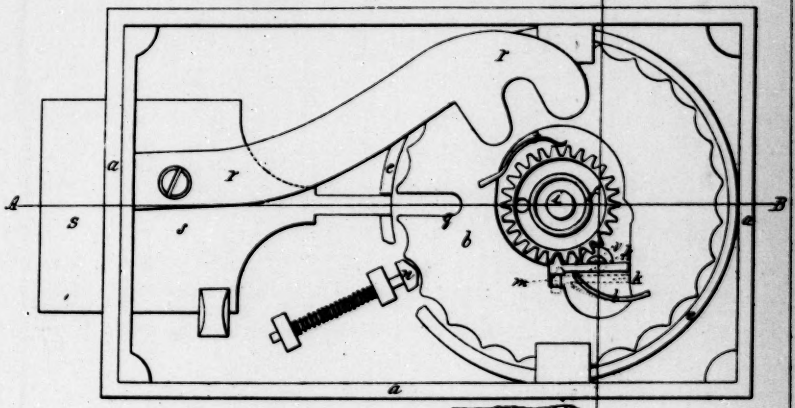
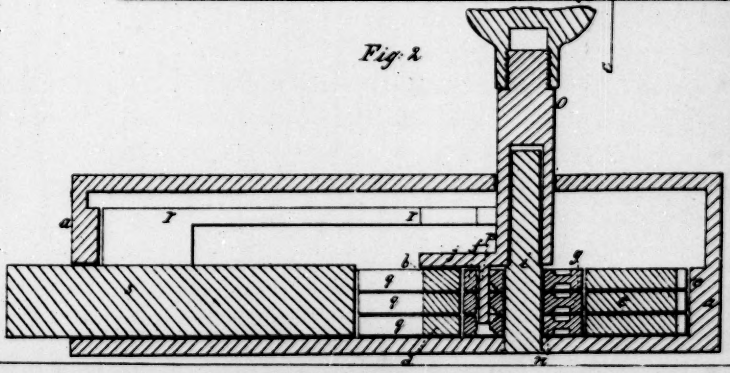


Fig. 2



C. A. Lewis